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ORAL PRESENTATION
BASIC SCIENCES
DELETED IN LIVER CANCER-1 (DLC-1) IS HIGHLY EXPRESSED IN CONJUNCTIVAL SQUAMOUS NEOPLASIA AND ACTS AS AN ONCOGENE IN HIGH GRADE LESIONS

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Mentor name: Miguel N Burnier

Background/Introduction: Deleted in Liver Cancer-1 gene (DLC1) encodes a Rho GTPase-activating protein 7 that participates in signaling pathways that regulate cytoskeletal changes. It was first described as a tumor suppressor gene in hepatocellular carcinoma and later described in several other tumors. Recently, DLC1 deletion in squamous cell carcinoma from the head and neck area has been reported.

Objectives: The aim of this study is to evaluate a possible role of DLC1 expression in the development and progression of ocular surface squamous neoplasia (OSSN).

Methods: Seven normal human eyes (NHE) obtained from the Eyebank of Canada and 68 OSSN, including 18 papillomas (Pa), 21 conjunctival intraepithelial neoplasia (CIN) I, 11 CIN II, 7 CIN III, and 11 squamous carcinoma (sqCA) were evaluated by immunohistochemistry against DLC-1, using an automated immunostaining protocol. The German immunoreactive score (IRS [0-12] = intensity [0-3] x extension [0-4]) was used to evaluate staining. The Student's t-test and analysis of variances (ANOVA) with Tukey post-hoc test were used to compare mean IRS between groups.

Results: DLC1 was expressed in all NHE (IRS=3.0±1.8), papillomas (IRS=5.6±3.1), CIN I (IRS=5.1±3.1), CIN II (8.3±3.3), CIN III (11±1.7) and SqCA (IRS=10.1±2.9). Furthermore, the IRS in the high grade lesions group (CIN II, III and SqCA) was significantly higher than the normal conjunctiva, Pa and CIN I group (ANOVA; P<0.0001). However, no IRS differences were noted within the low grade group (CIN I, papillomas or NHE) or within the high grade group.
Discussion/Conclusion: To the best of our knowledge this is the first study of DLC1 expression in OSSN. DLC1 is highly expressed in high grade squamous conjunctival neoplastic processes. DLC1 may act as an oncogene rather than a tumor suppressor, as opposed to squamous cell carcinoma of the head and neck region, and may play a role in OSSN pathogenesis development.
THE EVALUATION OF GREEN TEA ADMINISTRATION IN WISTAR RATS TREATED DURING PREGNANCY AND ITS EFFECT IN THEIR FETUSES

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Background/Introduction: The unfermented green tea has as feedstock fresh leaves of the Camellia sinensis plant, which contains: water, protein, carbohydrates, minerals, vitamins, flavonoids and polyphenols. Fresh tea leaf is unusually rich in the flavanol group of polyphenols known as catechins Epigallocatechin. This tea can reduce the effectiveness of acid folic, a key role in preventing neural defects in early months from the fetus conception. Studies on the safety of this product during pregnancy are rare.

Objectives: This study aimed to verify the effects of oral administration of green tea during the embryogenic period on the maternal developmental growth of the female WISTAR rats as well as the reflection of the treatment in their fetus.

Methods: Twenty pregnant Wistar rats were divided in two groups of 10 GC (Control) received standard diet and water and GT (treated) standard diet and green tea. The treatment was performed into the 8o-17o days of pregnancy, by exposing the rats by gavage - the concentration of green tea associated with the used by human being. The pregnancy was confirmed by observing the presence of sperm in the vaginal swab. After the cesarean section, in the 21o days of pregnancy, the following variables were analyzed: gestational weight gain, water consumption and breast feeding, number of reabsorption and abortions, weight of the placentas, as the umbilical cord, number of fetus, quantity of fetus living and dead, weight and length of fetus and the presence of fetal malformations. The results were expressed as mean +/- standard deviation and analyzed using the 't' paired considering the significance level of p <0.05 and Fisher's exact test with IC 95%.
**Results:** There was a gradual and progressive weight gain during pregnancy in both groups, particularly in the final stages. However, the mean body weight, feed intake and water did not differ between the treated group and the control, but was observed a decrease in average body weight in GT. The comparison between the weight of the litter of the treated group (44.06 ± 15.91) analysis showed a statistically significant reduction compared to the control (74.49 ± 31.56). The number of stillbirths in GT (6 ± 6.55) was significantly greater than observed in control group (0.5 ± 0.52). The fetus of rats treated with green tea showed a significant result of birth defects compared to GC (p<0.05).

**Discussion/Conclusion:** The evaluation of pregnant rats in the present study was performed during the implementation, organogenesis and fetal development phases. Considering the maternal variables: weight gain, feed intake and water were not observed differences between the treated and control groups, showing homogeneity between them in the three parameters. The reduced weight from the fetus of the treated group can be considered an indicator change of the organism or embryotoxicity suggesting an action of green tea on fetal development. The macroscopic examination of the fetus showed the occurrence of cutaneous bruising, hypovascularized placentas and slender skin. The significant differences in malformations in fetuses of the treated group are suggestive of teratogenic action of green tea during the pregnancy. However, additional studies are needed to determine the effects of green tea in specific population groups.
UNBALANCE IN MACROPHAGE DIFFERENTIATION PHENOTYPE AND DECREASED ANTIINFLAMMATORY CYTOKINES UNDERLIE DIMINISHED SKIN WOUND REPAIR OBSERVED IN AGING

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Background/Introduction: Aging is a biological process associated with diminished wound repair and cell proliferation. Skin tissue healing is among the affected processes of older patients, however the mechanisms underlying this process are not completely understood. Numerous cells are involved during wound healing. Among them macrophages are crucial in the transition from inflammation to granulation tissue formation. This cell secretes soluble factors that will stimulate this transition. The relation between macrophage cytokines in serum and wound repair in aging will be studied.

Objectives: General objective: Study the role of macrophage differentiation and circulating cytokines in skin wound repair in aging.
Specific Objectives:
1. Study in vivo healing of skin wounds treated topically with blood serum from old or young rats.
2. Study blood serum cytokines in old or young rats.
3. Evaluate macrophage produced cytokines in old or young rats.
4. Study macrophage differentiation from bone marrow in old or young rats.
5. Study blood serum cytokines during aging.

Methods: 5 young (2 months old) and 5 old (18 months old) male Sprague-Dawley rats were used for in vivo skin wound healing studies. Three 2.5 mm dermic punch wounds on rats’ backs were done. One was used as control and others were treated topically with old or young rat blood serum. Wound area and collagen formation were studied histologically on day 7. Universidad de Chile Laboratory Animal Care’s regulations were followed.
Blood serum’s cytokine composition and macrophage cytokines were evaluated using Cytokine Profile Array.

To evaluate if macrophage cytokine production is committed since bone marrow, rats’ macrophage differentiation was studied. Bone marrow cells were stimulated with 50 ng/ml of M-CSF during 7 days to obtain macrophages (BMDM). Immunofluorescence was performed using anti-CD68. M1 (proinflammatory) and M2 (repairing) macrophages were quantified using elongation factor.

Human blood serum cytokine composition was analyzed using ELISA. Samples obtained with informed consent n=40, were grouped according to donor’s age in 18-22 yrs “young”, 30-48 yrs "middle age" and over 50 yrs "old".

Data was analyzed using ANOVA, p <0.05.

**Results:** Old rats showed delayed wound healing compared to young rats, observed as impaired wound area reduction and diminished collagen formation. Old rats’ wounds treated with young rat serum healed better than wounds treated with old serum. Young rats’ wounds treated with young serum showed no difference with control, while wounds treated with old serum showed diminished wound repair.

Blood serum’s cytokine profile Array showed higher levels of MIP1alpha, CINC-1 in old rat serum when compared to young rats. These Cytokines are partially secreted by macrophages; therefore macrophage differentiation from bone marrow and cytokines were studied.

Macrophage cytokines showed similar levels of proinflammatory cytokines MIP1alpha and RANTES found in both groups and increased anti-inflammatory cytokines IL-10, IL-1ra and CXCL-7 in young rats.

Old rats showed an unbalance between M1 and M2 phenotypes in BMDM, being M2 diminished. Young rats, on the other side, showed similar amounts of M1 and M2 phenotypes.

As differences in rat serum composition were observed, analysis of human serums was done using ELISA. Results showed aging is also related to increased MCP-1 and decreased IL6R.
**Discussion/Conclusion:** This study showed diminished skin wound repair in rats associated to aging. Mechanisms underlying this phenomenon involve diminished collagen formation, enhanced differentiation to proinflammatory macrophage phenotype from bone marrow and differences in blood’s circulating cytokines. Older organisms showed increased proinflammatory levels, but due to decreased antiinflammatory activity. Our data suggest that elevated proinflammatory state could stimulate bone marrow to favor M1 over M2 phenotype. The study also suggests that aging effects over skin wound healing can be offset by soluble factors in young serum. The identification of factors enriched in young blood that can improve wound healing is a key research goal.

In humans, aging is also associated to increased proinflammatory soluble factors in serum. Aging effects on serum started occurring during middle age, suggesting investigations on aging should begin after 30 years.
SURGERY/ORTHOPEDICS
ASSESSMENT OF ENDOTRACHEAL TUBE CUFF PRESSURE: ACCURACY OF DIGITAL PALPATION AND ANESTHESIOLOGIST’S EXPERIENCE

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Background/Introduction: One of the functions of the endotracheal tube cuff is to seal the airway, that is, to occlude the space between the tube and the tracheal wall, thus preventing pulmonary aspiration and ensuring ventilator function. Cuff pressure must be maintained within the recommended range of 25-30 cmH2O.

Objectives: To evaluate digital palpation as a method to determine the appropriate inflation of endotracheal tube cuff of patients undergoing general anesthesia.

Methods: A prospective study was performed at the Surgical Center of the Clinical Hospital of the Federal University of Triangulo Mineiro (HC/UFTM), in Uberaba, Brazil. After orotracheal intubation, the cuff was inflated with air and the injected volume was determined by tactile sensitivity. Inflation was performed by an anesthesiology resident or by anesthesiology staff, and the cuff pressure was measured by a cuff manometer at any time during the surgery. A value of p < 0.05 was considered significant.

Results: 15.65% of the cases had adequate insufflation pressure, 21.2% had inadequate pressure, and 63.15% had high pressure. Statistical analysis showed that the R1 group had a median cuff pressure of 60 cmH2O (20-120), R2 had 60 (10-120), R3 had 52 (10-120), and the Staff group had 45 (5-120). Measurement of the degree of accuracy was appropriate in 27.3% of R1 cases, in 25.5% of R2 cases, in 7.2% of R3 cases, and in 8.9% of Staff cases, with no significant difference between the groups (p < 0.05).
Discussion/Conclusion: 84.35% of the cuff pressures measured in this study were not in accordance with the appropriate limits, so digital palpation and professional experience were shown to be inappropriate methods for estimating the inflated pressure. Therefore, it is recommended that cuff pressure be measured by a specific device, the cuff manometer.
BALANCING SAFETY AND EFFICIENCY IN SURGERY: DO SURGEONS WHO PARTICIPATE IN CONCURRENT SURGERIES HAVE A GREATER RATE OF INTRAOPERATIVE COMPLICATIONS?

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Background/Introduction: Concurrent surgeries compose a reality among health institutions, whilst there is an increasing controversy regarding its safety, efficacy and ethical aspects.

Objectives: In this study, we sought to evaluate whether there is an association between increased rates of concurrent surgery and poor outcomes.

Methods: Complication rates of PSI4 (Death Rate among Surgical Inpatients with Serious Treatable Complications), PSI9 (Perioperative Hemorrhage Rate) and PSI15 (Accidental Puncture or Laceration Rate) were collected from 6 different specialties during 2015 in the Cleveland Clinic. Surgeon experience and rates of concurrence per surgeon were also registered. Spearman correlation was used to verify associations between individual percentage of concurrent surgery and experience with complication rates. Mixed effect Poisson regression models (with 95% confidence interval) were used to evaluate the relationships between complication rates and concurrent surgery use. Concurrent surgery use was considered as a continuous measure, as well as surgeons were classified as high concurrent ones if they perform over than 10% and 20% concurrent cases. Analysis comparing complication rates were performed within and among different departments. All analysis were run in non-adjusted and adjusted models for surgeon experience.

Results: Herein, we analyzed a total of 100 surgeons (2 from bariatric, 14 from cardiothoracic, 15 from colorectal, 23 neurosurgeons, 23 orthopedics, and 23 urologists), encompassing a total of 15,400 surgical procedures. Correlations and comparisons, within and among different specialties, revealed no statistical significant result (p≥0.05), with exception for high concurrent
urologists (cut point of 10%), who presented lower rates of PSI9 (RR=0.11; p=0.44 – unadjusted model). Relative risks (RR) were consistently above 1 for PSI4 and PSI15, indicating increased risk with greater concurrent surgeries. For each 10% increase in the percentage of concurrent surgeries, the risk of PSI4 increases by 3%, while the risk of PSI15 increases by 2%.

**Discussion/Conclusion:** Our study suggests that surgeons who perform more concurrent surgeries have an increased risk to incur in complications. Notwithstanding, this risk is not in general accompanied by significant differences in complication rates between those who often overlap and do not. We suggest that surgeons, regardless the specialty, practice concurrent surgeries with parsimony due to the incremented risks that go along with greater rates of overlapped cases.
Background/Introduction: Intestinal transplantation has become a therapy consideration for short gut syndrome and intestinal failure. However, infections and acute graft rejection remain major challenges. Among the processes which may predispose to an increased risk of acute graft rejection there is the Ischemia-reperfusion injury (IRI). A Technique such as Ischemic preconditioning (IPc) and N-acetylcysteine (NAC) treatment were developed in an attempt to lessen the deleterious effects following intestinal IRI.

Objectives: The objective of this study is to evaluate the modulation effects of IPc and NAC on cell-mediated immune response in intestinal transplantation through the analysis of T and B-cells and the degree of morphological development and rejection of the intestinal graft.

Methods: This work was approved by the Ethics Committee for Experimental Research at the Universidade Federal de São Paulo. Fetuses from 3 Balb/c mice on day 18 of pregnancy were chosen as intestine donors. The recipients were 8 weeks old Allo(C57BL/6) and Isogeneic (Balb/c) male mice divided into six groups: Control Iso (n=3) and Allo (n=3), IPc Iso (n=6) and Allo (n=6) and NAC Iso (n=6) and Allo (n=6). All surgical procedures were done using a clean technique on anesthetized mice. The IPc procedure was performed through the clamping of the donor’s femoral artery during 10 minutes, followed by a reperfusion interval of 10 minutes before the fetal intestine graft removal. Another donor had NAC(150mg/kg) administered intravenously and after a 20 minutes interval the grafts were removed. On the 7th day post-transplantation, the recipients had their inguinal lymph nodes, spleen and fetal intestinal graft removed. After the procedures, all mice were euthanized with letal doses of anesthetic. All intestinal segments were included in paraffin, stained with hematoxylin-eosin and analyzed with light microscopy, the lymphocytic population was evaluated through flow cytometry and
statistical analysis was done using ANOVA and Bonferroni correction, and $P \leq 0.05$ was considered significant.

**Results:** Morphological evaluation: According to the classification of Auber et al, all grafts were evaluated regarding the development and rejection process. The Iso control group showed better degree of development than the Allo group (12 vs 2.2) and lower degree of rejection (2.4 vs 14). PCI and NAC Allo groups also showed better degree of development than the Allo control group (7 and 5, respectively vs 2.2). Flow Citometry: T-cell population evaluation showed that Allo groups had lower percentage of CD4+ cells (Control=17.5±3.8%; PCI=24.8±4.7%; NAC=24.3±5% vs Iso=31.3±3.4%, $P \leq 0.05$) and higher percentage of CD8+ cells (Control=19.7±3%; PCI=17.7±3.7%; NAC= 18.8±4.8% vs Iso=8.2±2.3%, $P \leq 0.05$) than the Iso control group. CD8/CD44 and CD8/CD62L showed a decrease (NAC-40% and 49%; PCI-37% and 38% respectively) compared to Allo control group. Splenic and lymphonodular cell population showed reduced expression of MHC II in Allo PCI (51%) and Allo NAC (49.5%) than Allo control group, however, there was no significant difference in CD19+ cells.

**Discussion/Conclusion:** Based on the above data, we conclude that IPC and NAC treatment modulated CD4+ and CD8+ lymphocytic activation in acute allorejection after fetal intestinal transplantation, allowing better graft development and lower rejection when compared to the Allo control group. There was also modulation of the expression of MHC-II, however, there was no change in B-cells activation.
CLINICS/INTERNAL MEDICINE
VITAMIN C AMELIORATES THE MICROVASCULAR DYSFUNCTION IN PATIENTS WITH ACUTE MYOCARDIAL INFARCTION SUBJECTED TO PERCUTANEOUS CORONARY

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Background/Introduction: Coronary angioplasty (PCA) plays a key role in the reperfusion therapy of patients diagnosed with acute myocardial infarction (AMI). However, this procedure causes impairment at the level of microvascular function that may account for a worse cardiovascular outcome. It has been suggested that the mechanism of this derangement, known as “No-Reflow”, involves the contribution of oxidative stress and endothelial dysfunction. Evidence supports the view that antioxidant treatment, administered prior to coronary reperfusion, may reduce ischemia/reperfusion injury. The present study was designed to test the hypothesis that vitamin C can ameliorate the microvascular dysfunction occurring following reperfusion in patients with AMI subjected to PCA.

Objectives: To determine whether vitamin C improves the myocardial microcirculation in patients with AMI subjected to PCA.

Methods: A randomized double-blind placebo controlled clinical trial was performed at the University of Chile Clinical Hospital, San Juan de Dios Hospital, and San Borja Arriarán Clinical Hospital on 43 AMI patients subjected to PCA. The patients were randomized to vitamin C group (n=22) and placebo (n=21) groups. Thrombolysis in myocardial infarction (TIMI) myocardial perfusion grade (TMPG) after PCA was compared between the groups. TMPG values of 0-1 were considered as having microvascular dysfunction, TMPG values of 2-3 were considered to have a normal functioning microcirculation. Data analysis was performed using Fisher’s exact test, p values <0.05 were regarded as statistically significant.

Results: Mean age of the total sample was 57 years. 90% were men. The symptom onset-to-balloon time was the same for the two groups. Also both groups showed no statistical differences in distribution of comorbidities and drug use. In the vitamin C group 95% of patients achieved values of TMPG 2-3, and only a 5% of them presented a TMPG of 0-1, after PCA. In
addition, in the control group only 79% of patients achieved TMPG 2-3 and the 21% showed a TMPG 0-1.

Discussion/Conclusion: These results are consistent with the view that vitamin C antioxidant therapy could ameliorate the microvascular dysfunction occurring in AMI patients subjected to PCA. Vitamin C infusion administered prior to PCA procedure could be a low cost innocuous pharmacological agent to protect the myocardial tissue against the “No-reflow” phenomenon, caused by myocardial ischemia-reperfusion injury.
A STUDY ON SYSTEMIC IMMUNE RESPONSE AND ITS ASSOCIATION WITH CLINICAL AND PSYCHOLOGICAL SEVERITY OF IRRITABLE BOWEL SYNDROME (IBS) PATIENTS.

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Background/Introduction: Irritable Bowel Syndrome (IBS) is a highly prevalent digestive disorder in the world, which is characterised by the presence of abdominal pain associated to changes in bowel habit. The IBS physiopathology is comprehended by biopsychosocial model, where a bi-directional imbalance in the gut-brain axis affects patient’s neuro-immune response. Studies addressed to evaluate the interaction between psychosocial condition and inflammatory states in Chilean population with IBS are scarce.

Objectives: To evaluate and subsequently establish the relationship between the inflammatory status, clinical and psychosocial condition, amongst Chilean IBS patients and Healthy Controls (HC) subjects.

Methods: IBS patients (n=25) and HC subjects (n=18), recruited from HCUUCH, were evaluated for the level of anxiety/depression, physical (PQOL) and mental (MQOL) quality of life, symptoms severity (SS), by HADs, SF-36 and SII-SS questionnaires, respectively. Plasma levels of specific inflammatory mediators were determined in sub-cohorts of participants as follows: Group-1 (IBS n=20; HC n=18), for IL-8, IL-2, IFNγ, IL-10, MCP-1, IL-6, GMCSF, IL-1, IL-4, IL-12 and TNFα, through multiplex immunoassay (Bio-Plex®200 system); Group-2 (IBS n=25; HC n=14), for IL-2Rs; and Group-3 (IBS n=25; HC n=17), for alpha-2 macroglobulin (α2M), being the latter two evaluated by ELISA. The differences of inflammatory markers, psychosocial condition and symptoms severity, between both analysed groups were determined through Mann-Whitney test, while the correlation between variables was determined through Spearman-rank test. A p-value <0.05 was considered significant.
**Results:** We observed in IBS patients increased levels of anxiety (p=0.0019), IL-6 (p=0.0060), IL-8 (p=0.0302) and a2M (p<0.0001), as well as decreased levels of PQOL (p=0.0004) and MQOL (p=0.0012), compared with healthy controls. For IBS patients a negative correlation was observed between frequency of abdominal pain (APF) with MQOL (rho=-0.6241; p=0.0019) and pain severity with PQOL (rho=-0.4690, p=0.0277), whereas positive correlations were found for APF and depression (rho=0.4143; p=0.00284); depression with IL-8, IL-4 and IL-2Rs levels (rho=0.4778, p=0.0331; rho=0.4619, p=0.0403; rho=0.4742, p=0.0166, respectively).

**Discussion/Conclusion:** Our results show an increased inflammatory response as well as clinical and psychological disturbances in IBS patients compared to HC. The inflammatory response in IBS patients was associated to depression symptomatology and an impaired QOL. These results support the biopsychosocial model for this disorder, demonstrating a crucial role of alterations in gut-brain axis over the immune response. Therapies focused on psychological interventions directed to modulate the inflammatory response must be considered in IBS clinical management. Supported by FONDECYT 11121527.
CHARACTERISTIC OF VASCULAR COMPONENTS WITHIN THE MITRAL ISTHMUS LINE - AN ANATOMICAL STUDY

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Background/Introduction: The mitral isthmus, or left lateral isthmus is the postero-inferior area of the lateral left atrium wall between the orifice of the left inferior pulmonary vein (PV) and the mitral annulus. The mitral isthmus ablation, together with the PVs isolation are commonly used techniques to effectively treat paroxysmal atrial fibrillation. The presence of blood vessels running in the mitral isthmus line and their exact position play particularly important role in achieving linear block. Therefore, understanding the anatomy of the mitral isthmus is critical to safely perform the ablation.

Objectives: The purpose of this study was to analyze anatomical characteristics of the vascular components within the mitral isthmus line.

Methods: We collected and examined 150 randomly selected autopsied adult human hearts (Caucasian) of both sexes (24% females) aged from 19 to 94 years old (49.2±17.9) with mean BMI of 26.9±5.0 kg/m2 and heart weight of 446.0±102.4g. The morphology of the mitral isthmus region was assessed. Then the longitudinal section of the left atrial wall through the mitral isthmus line was performed in all hearts. All of the vascular components within the section line were identified and positioned as well as precise measurements were performed.

Results: The mean length of mitral isthmus measured along the internal surface of the left atrium was 28.9±6.2mm. The great cardiac vein (GCV) was present in 98.7% of cases, while the left circumflex artery (LCX) was noticed only in 56.7% of hearts. The Marshall vein was observed in 36.7%. The mean diameter of the GCV measured in mitral isthmus section was 4.3±1.3mm and its distance from the endocardial surface was 4.5±2.4mm. The mean distance from the GCV to the mitral annulus was 8.2±5.7mm and to the left inferior pulmonary vein
The orifice was 25.7±7.8mm. The mean diameter of the LCX was 2.4±1.1mm and its distance from the endocardial surface was 3.9±2.2mm. The mean distance from the artery to the mitral annulus was 8.5±5.2mm and to the left inferior pulmonary vein orifice was 27.6±7.3mm. In 25% of cases (21/85) the GCV and the LCX were located at the same level, but the LCX was situated closer to the endocardial surface. In 20% (17/85) the GCV was located below and in 14% (12/85) above the artery. The mean thickness of the left atrial wall measured in upper one-third, middle one-third and lower one-third of the mitral isthmus were: 1.8±0.9mm, 3.0±1.5mm and 8.7±2.5mm respectively.

**Discussion/Conclusion:** Presented data can be very useful information to the clinicians, especially electrocardiologists, who ablate the mitral isthmus in patients with atrial fibrillation. The GCV is present in the mitral isthmus line in almost all hearts, while the LCX is seen only in half of the cases. The GCV and LCX are mostly located in lower one-third of the mitral isthmus (near mitral annulus). A relatively small distance between the LCX or GCV and the endocardial surface of the left atrium may be responsible for a convective cooling and thus be significant obstacles to successful mitral isthmus ablation. The mitral isthmus is the thinnest in its upper one-third (even below 1mm) and the thickest in the lower one-third.
GINECOLOGY AND OBSTETRICS
ANALYSIS OF THE TIME FOR DIAGNOSING AND TREATING BREAST CANCER AT HOSPITAL SÃO PAULO IN 2015 AND 2016

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Mentor name: Afonso Celso Pinto Nazário

Background: Breast cancer is the most common cancer in women, after nonmelanoma skin carcinomas. The incidence is increasing and is higher in developed countries, even though the mortality rate is higher in developing nations (INCA). Prognosis is related to the stage on which the tumor is diagnosed. Delays between tumor detection and treatment initiation allow tumor's growth, compromising patients survival.

Objectives: The primary objective is to evaluate time intervals from the first symptom until the first treatment of breast cancer at Hospital São Paulo (HSP) in 2015 and 2016. The secondary objective is to comprehend the profile of women with breast cancer treated at Hospital São Paulo regarding diagnosis, first symptom, primary site, histological type of tumor and first treatment.

Methods: This is a prospective study of women diagnosed with breast cancer between 2015 and 2016 in the Mastology Ambulatory of the Department of Gynecology UNIFESP. The project was approved by the Ethics Committee of the Federal University of São Paulo, with the number 0591/2016. Intervals were analyzed from the first symptom until the first treatment. Data was collected from electronic medical records and missing values were complemented by phone calls. The funding agency is National Counsel of Technological and Scientific Development - CNPQ. One hundred and twenty six women were included.

Results: The longest time was from initial symptoms until the first consult in the HSP, with a median of 108 days. On the other hand, the shortest time was between the first consult in the HSP until the biopsy, with a median of 0 days, which means that the biopsy was performed at the first visit. Although the average age at diagnosis of breast cancer is 54 years, 53.2% of
women are diagnosed before age 50 or after 69 years, that is, out of the age range recommended for screening by the Brazilian Ministry of Health. From the 126 women analyzed, the first treatment for 72 was surgery, for 41 was neoadjuvant and 13 women received palliative therapy.

**Discussion/ Conclusion:** The data evidences the importance of the mammography for early diagnosis and shows that in an individual perspective would be interesting to extend the age range for screening.
WOUND HEALING ON THE PELVIC FLOOR IN RELATION TO PELVIC ORGAN PROLAPSE WHAT DO WE KNOW?

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Background: Pelvic organ prolapse (POP) is a result of the weakening of the supportive tissues of the pelvic floor, including levator ani muscles, endopelvic fascia, ligaments and vaginal wall. Pregnancy, vaginal delivery, aging, increased intra-abdominal pressure, trauma or prior surgery on pelvic floor and genetic predisposition are among the most important risk factors for POP. This condition affects women's daily activities and decreases their quality of life, which makes POP a growing public health concern worldwide.

Objectives: Since the most important risk factors for POP trigger a wound on the pelvic floor tissues, we hypothesize that a frustrated wound healing could affect the tissue homeostasis and promote prolapse. This review describes the wound healing physiology in tissues that might be injured in the pelvic floor and discuss factors that affect wound healing. This knowledge could advance the understanding of extracellular matrix abnormalities on prolapsed tissues and contribute to the development of treatments in an early stage after wound repair, which could prevent the development of POP.

Methods: The primary investigator and a clinical librarian searched the computerized database MEDLINE up to 2016, using terms such as pelvic organ prolapse, uterine prolapse, cystocele, rectocele, pelvic floor, parturition, wound healing, wound repair, wound closure, tissue healing, tissue remodeling, supportive tissue and extracellular matrix. Not only free text terms but also Mesh terms were used. Only data published in full article form were included. Additionally, articles were obtained by reviewing reference lists of pertinent studies and reviews. No articles written in languages other than English provided additional information.
**Results:** Similar to skin, the wound healing in the pelvic floor tissues takes place in four phases (inflammation, proliferation, maturation and remodeling) and involve a precise integration between cells, cytokines and growth factors. However, the duration of each phase is longer in the different structures of the pelvic floor compared to skin. Mechanical loading on the pelvic floor negatively affects healing and it is associated with increased collagenase activity, whilst estrogen seems to improve the mechanical properties of the stretched tissue and could be beneficial for vaginal wound healing. Neither damaged muscle, nerve, ligaments nor vaginal wall recover their pre-wounding characteristics. POP tissues differ from non-POP tissues in matrix composition, amounts and functionality of cells, and expression of growth factors. Together, these differences affect the biomechanical properties of POP tissues, which seem to be more extensible, with stiffer matrices and reduced load-bearing capabilities.

**Discussion/ Conclusion:** A frustrated wound healing of the tissues of the pelvic floor could result in tissues with altered composition and biomechanics that could lead to the progression of POP. Identifying the injuries that are too extensive that could lead to impaired healing, and differentiating the loadings necessary for tissue regeneration from those that negatively affect healing would help creating preventive strategies for those women more likely to develop POP.
PREGNANCY-INDUCED HIPERTENSION: A REVIEW ABOUT MANAGEMENT

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Mentor name: Maria Monica Pereira

Background: It is estimated that hypertensive disorders in pregnancy affect 6-8% of pregnant women in the United States, and they are considered one of the main factors of maternal mortality. In Brazil, according to DATASUS, if we consider the categories of O13 to O16 ICD-10, hypertensive disorders account for about 20.22% of maternal deaths in the period of 2004 to 2014. Therefore, the right knowledge of the main techniques used for the management of pregnant women is essential.

Objectives: This review aims to present the most current treatments for the management of hypertensive disorders during pregnancy.

Methods: The Medline/Pubmed, LILACS/Scielo, Cochrane library and Scopus databases were consulted, looking for national and international articles published between 2006 and 2016, in English and Portuguese, as well as consensuses set by the World Health Organization (WHO) and DATASUS government statistics. The descriptors used were "eclampsia", "preeclampsia" "pregnancy-induced hypertension", "treatment" and "pregnancy".

Results: The pregnancy’s evolution usually does not have difficulties, but in some pregnant women, the hypertension (HY) appear as a complication. If the HY is not controlled, it could lead to hypertensive crisis, preeclampsia (PE) or eclampsia.

This review exposes a list of recommended and used treatments in current medicine. The recommended managements to prevent PE are calcium supplementation for pregnant women with low dietetic ingestion and the administration of low doses of aspirin. In front of PE, if it happens on term, the procedure is to induce the delivery, but if it occurs pre-term, it is to monitor, administrate magnesium sulfate (MS), antihypertensive. In case of eclampsia, the MS is very effective to reduce eclamptic seizures.
The drugs used in treatment of severe chronic HY is methyldopa in association or not, with nifedipine or hydralazine. The acute HY is treated with first line drugs, nifedipine and hydralazine, and alternatively with sodium nitroprusside.

**Discussion/Conclusion:** Several studies look for an efficient method to reduce the incidence and severity of hypertensive disorders in pregnancy, however, this methodology has not been found yet. It was the motivation to do this review that intends to show the main treatments used in clinical practice. The main worldwide protocols basically follow the same orientation, only changing specific details of conduct according to each country’s health system, for example, availability of drugs.

The treatment of severe HY aims gradual control of blood pressure to normal levels, showing satisfactory results for both the mother and the fetus, since it reduces the risk of PE and eclampsia. The best treatment for PE and eclampsia is the induction of delivery, because they have no cure, only therapeutic measures to control. Depending on the gestational age (<34 weeks), this statement is invalid, entering the maternal and fetal monitoring place with expectant management always acting to keep maternal and fetal vitality.
PEDIATRICS
TEMPORAL ANALYSIS OF BREAST-FEEDING IN A PRIMARY HEALTH-CARE UNIT OF PELOTAS, BRAZIL

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Mentor name: Angela Moreira Vitoria

Background/Introduction: The Primary Health Care, within the SUS (Brazil's National Health System) developed actions in basics assistance in order to improve maternal and child's health indicators. In this context, exclusive breastfeeding (EB) is a priority. Hence, the Basic Health Unit (BHU) is responsible to keep up with breastfeeding in order to guarantee that it will be accomplish correctly, also to attendant the patients about the importance of EB until 6 moths to the baby as well as to the mother.

Objectives: Considering the improvement of child health indicators and the importance of EB to the development of children, the present work objective to characterize the profile of the mothers who accomplished EB until 6 months at the BHU Vila Municipal in Pelotas.

Methods: The present study used a descriptive cross-sectional method from a secondary database obtained on the Vila Municipal BHU within the period of January of 2011 and May of 2016. Therefore, in April of 2016, the data were gathered by four 4th semester students of the course of medicine from Federal University of Pelotas, based on all the puericulture mirror-forms (PMF) from the unit that were filled on the determined period.

Results: The sample was composed by 250 children, being 22 born in 2011, 46 in 2012, 48 in 2013, 95 in 2014, 35 in 2015 and 4 in 2016. The registration of breast-feeding (BF) on the 1st, 2nd and 3rd month were inversely proportional to the age (18.8%, 38.8% and 40.8%, respectively). The year of 2014 had the higher percentage of registration in the 1st month (84.2%), being EB the most prevalent type of nutrition (60%). Meanwhile, on the 2nd month, the two years with better registrations showed the higher percentage of EB and UOM, while
the 2 years with less registration showed the lower percentage of this variables. In the 3rd month this pattern continued, excepting 2011, that had the lower number of registrations (50%) but presented the highest percentage of EB (27,3%). Considering this context, the temporal analysis didn’t evidence a pattern of improvement or worsening of the BF indexes, however, may be inferred that the years with adequate registration had higher percentage of EB and UOM.

**Discussion/Conclusion:** In the 1st month, the average prevalence of EB from 2011 to 2016 was 58,8%; on the other hand, 2012 and 2015 showed numbers above average, reaching 68% and 62,9%, respectively. Furthermore, 2012 obtained the best percentage of EB (45,7%). All this results are similar to those found by Vieira et al. (2010) at Bahia, where the average prevalence of EB in the 1st month was 59,3%. The same is seen in the 2nd and 3rd months, where the indexes of EB lower as PB and UOM rises, reaching higher prevalence levels that the one found on EB in the 3rd month in 2015. The relevance of this results base on the fact that mothers which are not in EB in the first three months are not likely to initiate it later, not fulfilling the 6 months of EB preconized by WHO.
SUDDEN INFRANT DEATH SYNDROME IN PELOTAS BETWEEN 2006 AND 2013: A DESCRIPTIVE ANALYSIS

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Mentor name: Lorea, R. L.

Background/Introduction: The Sudden Infant Death Syndrome (SIDS) ranks the first positions as a cause of post-neonatal infant mortality in developed countries. In Brazil, there are few data to allow us to evaluate the influence of socio-cultural and geographical factors in the incidence of this disease. Brazilian studies have adopted clinical criteria for SIDS classification as "sudden death in asymptomatic child or minimal symptoms less than 24 hours long", which was used to determine the sample in this study investigating all diagnosed deaths as SIDS in Pelotas between 2006 and 2013, accounting for 37 cases.

Objectives: This study aimed to evaluate the socio-epidemiological, behavioral and environmental characteristics of the children who died of SIDS in the city of Pelotas, such as year of death, maternal age, skin color, sex, maternal smoking, exclusive breastfeeding, decubitus position, child’s age, birth weight, the season that death occurred, gestational age and occurrence of co-sleeping.

Methods: Were studied all cases of SIDS in 2006 until 2013 in Pelotas. Data were collected trough the Municipal Department of Health, which has 100% coverage of cases of infant mortality through the Child, Fetal and Maternal Death Investigation Committee (COMAI). The COMAI investigates infante deaths trough the application of Deaths Research Sheets (home interview form, hospital research record, outpatient investigation form) standardized by the Ministry of Health and gathering information of the Declaration of Live Birth and Death Certificate. The study excluded children who did not fit the clinical definition of SIDS. That is, presenting plausible life-threatening symptoms by any other pathology. The data collected were year of death, maternal age, skin color, sex, maternal smoking, exclusive breastfeeding, decubitus position, child’s age, birth weight, the season that death occurred, gestational age and
occurrence of co-sleeping. Information on birth weight was obtained safely from parents, as a result of previous studies and confirmed by the Declaration of Live Birth. After data collection, was made a descriptive analysis of the prevalence of SIDS in Pelotas.

**Results:** The 37 recorded deaths occurred in an estimated population of 28,560 live births, considering average of 4,284 births per year in families living in Pelotas, according to the City Department of Health, representing a mortality rate of 1,5 per thousand SIDS. The mean maternal age was 23,5 years, 10,8% have only one child, 29 (78%) were smokers and 23 (62%) granted exclusive breastfeeding until the date of death. Most mothers, 19 (51%), were white and 28 (76%) have their babies born at term. Among the 37 cases, 19 (51%) children were female, 17 (50%) weighed 2,960g on average and 16 (43%) have died less than a month of life. Most children, 26 (70%), were sleeping with their parents and 23 (61%) in the lateral position, while only two (5%) in the prone position. 16 (43%) of cases of SIDS occurred during the winter.

**Discussion/Conclusion:** This descriptive study aimed to meet socio-epidemiological, behavioral and environmental characteristics of the children who died of SIDS in Pelotas. It should be considered that some aspects of the methodology used may underestimate or overestimate the mortality rate, as the use of clinical criteria for definition. The higher prevalence in winter may be linked to possible etiology of SIDS related to viral respiratory diseases, biochemical deficiencies and hypothermia, which most commonly occur in colder months, or the amount of blankets and warm clothing used by infant. Young mothers and more than two children are variables related to low income and education, factors that have been proven in the literature to be associated with risk of SIDS. Studies show smoking as a potent risk factor, in accordance with this study where 78% of mothers smoked, reaffirming the importance of anti-smoking policies. There is evidence that the risk of SIDS is increased when the infant sleeps in the side position, in order most likely to scroll to the ventral position than to the back. In our study, 61% of children took the side sleeping position, while 5% were sleeping in prone position.
TUBERCULIN SKIN TEST AS A TOOL TO DIAGNOSE LATENT AND ACTIVE TUBERCULOSIS IN INFANTS: REVISING THE CURRENT CUT OFF IN A HIGHLY BCG VACCINATED POPULATION

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Mentor name: de Moraes-Pinto, M.I.

Background/Introduction: According to many guidelines, tuberculin skin test (TST) is still nowadays the preferred method to investigate tuberculosis (TB) infection in children under 5 years. However, bacille Calmette-Guerin vaccine (BCG) could interfere with TST result, especially in the first two years after BCG administration.

Objectives: This study aims to assess different TST cut-off levels to discriminate TB infection or disease in infants aged up to 24 months exposed and not exposed to tuberculosis with BCG vaccine administered during the first month of life.

Methods: Two groups were evaluated: healthy infants without known contact with an adult with TB (n=36) and children exposed to TB with latent or active tuberculosis (n=10). All infants from TB-exposed group had also at least one positive interferon-gamma release assay (IGRA). After written informed consent, 0.1 mL PPD RT-23 was administered on the anterior forearm and measurement of induration was read after 72 hours with a millimeter ruler. The cut off applied for a positive TST were 10 mm (currently recommended by the Brazilian Thoracic Association) and 5 mm.

Results: Both groups were comparable in respect to age (TB-exposed, 11.1 months versus non-TB-exposed, 12.1 months, t test, p=0.079). Median TST induration was zero mm in non-TB-exposed infants (range, 0-8 mm) and 10 mm (range, 0-35 mm) in TB-exposed group (Mann-Whitney, p<0.001). TST ROC curve had an area under the curve of 0.933 (95% Confidence
Interval, 0.814-1.000). Using 10 mm as cut-off of PPD, a 40% sensitivity and 100% specificity were obtained; if 5 mm was employed, a 90% sensitivity and 91.7% specificity were achieved.

**Discussion/Conclusion:** The 5 mm cut-off is more suitable than the 10 mm cut-off currently recommended by the Brazilian Thoracic Association to discriminate latent and active TB in children. BCG vaccine does not seem to interfere with TST assessment when a 5 mm-cut off is employed.
PREVENTIVE MEDICINE
EPIDEMIOLOGY STUDY OF ELDERLY BURN VICTIM ASSISTED IN REFERENCE CENTER BURNED THE FEDERAL DISTRICT, BRAZIL.

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Background/Introduction: The treatment of elderly burned victims has high cost and high mortality due to pre-existing morbidities and chronic diseases associated with decreased immune defense with increased risk of infection.

Objectives: To analyse the epidemiological data of elderly burned treated at a referral treatment center of burned people in Brasília, Distrito Federal, Brazil.

Methods: Retrospective study type, descriptive and analytical with data collected from medical records of patients older than 60 years old hospitalized in the period from 1st January, 2002 to 31st December, 2012. The variables analysed were age, sex, condition of burn, location of occurrence, the etiologic agent, depth of burn, body burned surface area, length of hospitalization, pre-existing diseases, complications during hospitalization, proposed treatment, lethality prevalence and sequelae resulting from trauma.

Results: The research showed that in 2594 patients of all ages were hospitalized in the period from 2002 to 2012, and amongst of them 128 (4.9%) were older than 60 years old. There was no gender difference in the number of days of hospitalization and progression to death, with 48% of men and 52% women. In 93% of the time the trauma was by accident and 7% was suicide attempt. As to the place of occurrence, 42% of the cases occurred at home, the kitchen being the prevalent place in 65% of the event. The most prevalent causative agent was a direct flame, with 36% of the cases, followed by 21% scald. The specific lethality rate was 21%. The immediate cause of death was sepsis in 29% of cases, respiratory failure due to inhalation injury in 25% of the cases, 17% in heart failure, pneumonia and renal failure in 4%. Of the patients who were discharged home, 58% of the cases had some type of sequel that required continuous monitoring in outpatients.
Discussion/Conclusion: Among elderly burn victims 42% of injuries occurred at home and, amongst all cases, 93% were by accident. The high lethality (21%) demonstrates that prevention of accidents is very important, as the rapid referral of patients to specialized services. The training teams prepared for the rapid recognition of cases requiring hospitalization, family education, caregivers and elders as to methods of prevention and risk factors proves essential to reducing these accidents, which typically have high rates of lethality and sequelae.
DISTRIBUTION OF TUBERCULOSIS CASES IN SOUTH AMERICAN IMMIGRANTS IN THE CENTRAL REGION OF THE CITY OF SÃO PAULO, 2008-2014

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Background/Introduction: There is a significant migratory flux by South Americans to the city of São Paulo, mainly to districts located in the central area of the city (Bela Vista, Belém, Bom Retiro, Brás, Cambuci, Consolação, Liberdade, Pari, República, Santa Cecília e Sé). Epidemiological data available in the literature show a high incidence of tuberculosis in this population. Understanding their demographic and epidemiological profile is key to design effective health policies directed at them.

Objectives: To compare the demographic, epidemiological and clinical characteristics of tuberculosis cases reported to the São Paulo State Health Department in the administrative districts of the central region of the City of São Paulo of South American immigrants with those of native Brazilians or immigrants from other regions, from 2008 to 2014.

Methods: This is a cross-sectional epidemiological study, with secondary data obtained from the TBWeb system, of the São Paulo State Health Department. This study was approved by the Institutional Review Board of Irmandade da Santa Casa de Misericórdia de São Paulo (CAAE: 43107115.9.0000.5479).

The inclusion criteria was to be reported and treated as a tuberculosis case in the Central region of the City of São Paulo between 2008 and 2014. Exclusion criteria was lack of information about nationality or district of treatment of the patient.

TBWeb system is a database built with the information provided by health professionals when they notify a tuberculosis case to the State. Access to the database was granted to the researchers.
Demographic, epidemiological and clinical data available in the TBWeb system were statistically analyzed with the software SPSS 21.0. Descriptive statistics was applied and comparisons were made by t-test or by chi-square or Fisher tests, being significant p< 0.05.

**Results:** To compare the demographic, epidemiological and clinical characteristics of tuberculosis cases reported to the São Paulo State Health Department in the administrative districts of the central region of the City of São Paulo of South American immigrants with those of native Brazilians or immigrants from other regions, from 2008 to 2014.

**Discussion/Conclusion:** Tuberculosis is commonly associated with precarious living conditions and poverty, but this study shows that characteristics associated with the disease are quite different in South American immigrant patients compared to Brazilians and immigrants from other regions. The South American immigrants are younger, free from comorbidities and are diagnosed in earlier stages prior an emergency consult due to any acute tuberculosis symptoms. These facts result in a higher frequency of recovery and decrease death. The fact that a young group of individuals without comorbidities acquires tuberculosis is probably associated with extensive work journeys in the cloth workshops in unhealthy environments, and conditions sometimes akin to slave labor offered to South American immigrants in São Paulo city. These differences show the need for group-specific health policies, adapted for the needs of the target population, to help control tuberculosis.
CONTRACEPTIVE USE AND ASSOCIATED FACTORS AMONG ADOLESCENTS FROM 15 TO 18 YEARS OLD IN A FAMILY HEALTH UNIT

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Background/Introduction: The initiation of sexual activity in young women can cause a number of consequences due to inappropriate use or the lack of access to contraceptive methods. Considering those who make use of contraceptives, in many cases the use is incorrect or inconsistent.

Objectives: The aim of this study is to evaluate the knowledge of women from 15 to 18 years old of different contraceptive methods.

Methods: For this descriptive study, a questionnaire was applied for women from 15 to 18 years old that are followed by a family health team in Ribeirão Preto – SP (Brazil).

Results: Twenty five women were interviewed and 55,52% reported being sexually active, of which 44% related they regularly use some kind of contraceptive method, however 43,3% admitted they already had used a emergency contraceptive at least once in life. About the knowledge, 92% related to know at least one kind of contraceptive method, being the male condoms (84%) the most known at all ages (from 15 to 18 years old). The most cited source of information in relation to each age were the family among the girls between 15 and 16 years old, the school (17 years old) and health professional by 18 years old girls. However, despite of reporting know the importance and the benefits of contraceptive methods, 36% of respondents admitted they had never been to a consultation with a gynecologist or the family doctor, the same which denied regular use of some type of contraceptive method.
Discussion/Conclusion: This behavior could expose these women to risky situations, such as: sexually transmitted infections, complications caused by inadequate use of contraceptives methods and early pregnancy. Given the risks, this group requires greater attention from health professionals.
POSTER SECTION
BASIC SCIENCES
MENTAL HEALTH CHANGES CAUSED BY THE UNIVERSITY ENVIRONMENT ON THE MEDICAL STUDENTS

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Background/Introduction: University environment can negatively affect the psychological well-being of medical students through multiple stressors such as academic challenge, competition, and achievements. Prolonged exposure to stressors is usually the main cause of emotional exhaustion. In order to prevent and contain the increased number of mental illnesses and the sensation of exhaustion, the adoption of relaxation techniques appears to be an effective alternative that can be stimulated during the course.

Objectives: This review was created in order to expose how the university environment can be emotionally toxic for medical students; to understand what are the repercussions of this lack of mental health care (disorders such as depression and burnout syndrome) to them and even to their future patients. That is, this study aims to shed light on the importance of mental health in medical students and how it can be improved.

Methods: In this literature review, the search for scientific articles was made through the PubMed database. The keywords “quality of life”, “stress” and “medical student” were used in order to find studies consistent with the objectives of this work though the 2016’s version of the structured vocabulary MeSH. The filters used to select the most recently published articles were the period of publication (2011 to 2016) and “humans”. Among the 55 articles retrieved were selected those related to medical students; those articles associated exclusively to other professions were excluded. Among the articles that portray similar information were chosen those that contain a major number of information about the subject matter.
Results: Mental health damaged in medical students is a reality in many countries, and many medical students also experience burnout. About 60% of the Lebanese medical students present symptoms of headache, depressed mood, difficulty concentrating and insomnia. In Switzerland, 30% of students manifest depression and about 15% present anxiety disorders. At least one-third of Canadian medical residents from different specialties experience stressful life. In Brazil, the prevalence rates of symptoms of stress and depression are 50% in medical students. In order to reduce the high rates of psychiatric disorders in the medical students due chronic stress, non-pharmacological treatment appears to be an important alternative that should be considered. Tai Chi Chuan, Mindfulness, Electroacupuncture and the ‘Care Factor’ are alternatives to improve depression, anxiety and stress. Aerobic exercise can also be an ally to mental health since it reduces the emotional exhaustion and depersonalization.

Discussion/Conclusion: Medical education is highly demanding, therefore students deal with a complex learning environment, affecting their mental health. Burnout is a common syndrome related with a high level of stress; it includes emotional exhaustion, depersonalization and low personal accomplishment that begins in medical school. The continuation of symptoms can result in severe consequences for medical professionals and their patients. In order to reduce stress rate exercise, Tai Chi Chuan (relaxation techniques through deeply breathing) and Mindfulness (focus on present-moment awareness) are excellent alternatives to improved quality on life. Electroacupuncture has being shown promising results too. The introduction in a group therapy with focus on emotional support and activities with the concept of resilience is a good alternative too. The understanding of how the university environment can affect students is important to know where changes should be made since high levels of stress is a reality.
TRANSMIGRATION OF IMMUNE CELLS IN THE CENTRAL NERVOUS SYSTEM:
THE WAY OF NEUROINFLAMMATION

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Background/Introduction: The Central Nervous System is a specialized immune site. Its anatomical compartmentalization associated with antigen-specific molecular mechanisms modulates a peculiar inflammatory response. Three barriers regulate the entry of immune cells in the CNS: the blood-brain, that coordinates the neuroimmune response; the blood-cerebrospinal fluid, comprising the choroid plexus; and the meningeal, important access of leukocytes to the brain parenchyma via subarachnoideo space. Changes in inflammatory mediators, cell adhesion molecules and the gradient blood-CSF concentration promote recruitment and migration of immune cells from the periphery to the CNS, to maintain homeostasis through immunosurveillance, and in situations that threat this balance, like pathological processes.

Objectives: Gather advances on the role of immune cells in the CNS, cell signaling mechanisms that lead to the injured area, and the access roads to the parenchyma; Analyze the role of inflammation in the cerebral restore homeostasis and in the pathogenesis of neurological diseases.

METHODS: Articles base for this review were searched in PUBMED and MEDSCAPE databases. We used the following keywords: IMMUNE CELL MIGRATION CNS. The publications were found with search refinement by "area", "type" and "date". We selected the most relevant articles of 2015-2016 to the chosen theme, totaling 10 articles.

Results: The in vitro reproduction of BS-LCR models "reversed" the choroid plexus of rats allowed to analyze the transmigration of immune cells in the blood and stromal tissue into the CSF. Reduced membrane permeability, and maintenance of transepithelial electrical resistance and polarization, allowed extravasation and migration processes via interventricular stroma-
space, as in the in vivo process. Through this system, we identify: the dynamic and bidirectional exchange of B cells from the CNS and periphery; B cell differentiation into antigen presenting cells to T cells; chemotaxis induced migration of T lymphocytes via a paracellular route at the beginning of CSF neuroinflammation; presence of CD4 + T cells in the healthy brain; clonal expansion of plasma cells causing demyelination mediated complement activation of astrocytes and microglia; meninges as chronic inflammation sites, housing macrophages, dendritic cells, mast cells, innate immune cells and fibroblasts.

**Discussion/Conclusion:** This elucidation shows that antigen-directed specificity of leukocyte migration and the crucial role of cytokines and chemokines in the neuropathological process. If the response to tissue injury is reparative or degenerative, it depends on the context of the disease, duration, and therapeutic intervention opportunity.
BURNOUT SYNDROME REALITY IN BRAZILIAN DOCTORS WORKING IN THE HEALTHCARE SYSTEM

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Mentor name: PEREIRA, M. A. F. – FAMENE

Background/Introduction: Burnout syndrome is characterized by exhaustion, depersonalization and reduced satisfaction in performance. Because of its etiopathogenesis, burnout is today mainly regarded as the result of chronic stress which has not been successfully dealt with. This disease is considered an important work-related illness in welfare societies. Although people have already been talking about this subject for decades, in Brazil, discussions about this condition only became stronger in recent years.

Objectives: This study aims to understand the causes of the Burnout syndrome, to identify the symptoms of this pathology and expose ways to prevent and treat it. This study also expects to show how this syndrome affects medical professionals, in special doctors, in their private life and in the work environment.

Methods: Study about the effects of the Burnout syndrome in doctors. Looking forward to accomplish the purpose of this paper, it was made a literature review searching for the term: "Burnout syndrome", in the data base of Scielo, MedScape and Pubmed, the articles were selected according to parameters of inclusion, which were: language (portuguese or english), year of publication (between 2010 and 2016), also, were excluded from this review the papers that did not have the complete text in the database that had been searched.

Results: The prevalence of burnout was high in all the doctors with long work hours and exhaustion during on-call shifts. According to Carol Peckham: Burnout and Bias 2016 research show that more female physicians (55%) expressed burnout than their male coworkers (46%). This survey also asked physicians to rate causes of burnout and the top on the list, with an
average rating of 4.8, was having too many bureaucratic tasks, followed by too many work hours (4.1) and increasing computerization at 4.0. As report by Barros in 2008 the most affected by the burnout syndrome were doctors who had uninterrupted shifts of more than 24 hours, married and with more than 10 patients per shift. The least affected were those who had hobbies, practiced regular physical activity, had less than 9 years since graduation and were younger than 33 years old.

**Discussion/Conclusion:** The welfare of the doctors is directed linked to their work performance. If a doctor feels good with his body and mind he should be more patient and give more attention to the patients. When a doctor suffers from the burnout syndrome he isn’t able to give his best in his job, because of this it is important for everyone to know how to recover from this pathology. Burnout doesn't go away on its own, rather, it will get worse if not treated. Some ways to overcame burnout are: taking breaks during the workday, putting away digital devices and taking time to relax away from work. This also can be used to prevent burnout. The key to don’t be affected by Burnout is not having too much stress in the work place, therefore the employees need to find a balance between personal and work life.
DEEP BRAIN STIMULATION IN ADVANCED PARKINSON’S DISEASE: A REVIEW

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Background/Introduction: Parkinson's disease (PD) is a progressive neurodegenerative disease that affects dopaminergic neurotransmissions, resulting in several motor manifestations. With a prevalence of 0.3% of the population, many drugs are available to alleviate the symptoms of the disease. However, long-term medical managements may fail to control symptoms adequately due to the appearance of levodopa-induced motor complications, and that’s when surgical intervention appears as an option to a more suitable treatment.

Objectives: Conduct a review with updated scientific articles in the literature about the main aspects of the deep brain stimulation (DBS) in patients with advanced PD.

Methods: Literature review using PubMed database, from May 28 to July 20, with the following search phrase: ("Deep Brain Stimulation" OR "Electrical Stimulation of the Brain") AND ("Idiopathic Parkinson's Disease" OR "Lewy Body Parkinson Disease" OR "Lewy Body Parkinson's Disease" OR "Primary Parkinsonism" OR "Parkinson's Disease" OR "Idiopathic Parkinson's Disease" OR "Paralysis agitans"). Filters including free full text, articles published in the last 10 years and researches done in humans have been added. In this way, case-controls, cohorts, reviews and meta-analysis were used. Articles about surgical methods for treating Parkinson's disease and their differences were included, while the ones that addressed the issue about Parkinson's disease itself or only about the medical therapy were excluded.

Results: Initially, twenty articles were collected. By excluding a duplicated one and two screening titles, seventeen potential eligible articles remained. However, by intensive reading, six undesired articles were excluded. In the end, eleven articles were included in our review:
four meta-analysis, two randomized trials, one review, one research report and three clinical studies. It was found that the DBS can stimulate two areas, the subthalamic nucleus (STN) and globus pallidus internus (GPi). Studies showed that they successfully reduced the duration and severity of motor symptoms when medications are least effective, allowing a more reliable and higher level of overall function. The STN allows a reduction of about 50% of posttreatment dopaminergic dosage, but this rapid withdrawn of Levadopa can higher the rate of potential worsening of cognition and mood. Nevertheless, GPi stimulation showed slight improvement in the level of depression, such as better control of axial motor symptoms.

**Discussion/Conclusion:** The DBS involves the surgical implantation of one or more electrodes into specific areas of the brain, which modulate or disrupt abnormal patterns of neural signaling within the targeted region. It also involves delivering chronic electric stimulation with specific amplitude, pulse width, and frequency. The most important benefit of neurostimulation is reducing the duration and severity of motor symptoms when medications are least effective, allowing a more reliable and higher level of overall function. Studies suggest that DBS is even superior to the best medical therapy to alleviate motor symptoms and can be used in the discontinuation of medications. Therefore, studies show that the use of DBS at the earliest stage of motor PD may slow the progression of the disease, actually preventing the development of late-stage complications and providing a better overall quality of life and even may reduce mortality and admissions to a residential care home.
EFFECT OF CYTOGLUCOPENIA ON HYPOTHALAMIC AMP-ACTIVATED PROTEIN KINASE (AMPK) IN MICE FED WITH HIGH-FAT DIETS.

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Mentor name: Eliane Beraldi Ribeiro

Background/Introduction: Obesity is nowadays a public health issue and the intake of high-fat diets plays a relevant role. AMPK acts at the hypothalamus as an energy and glucose sensor, thereby its activation signifies energy deficiency, contributing to energy restoration through appetite stimulation and changes in peripheral tissues metabolism. Central administration of 2-deoxyglucose, a non-metabolizable glucose analog, causes cytoglucopenia, leading to responses similar to those elicited by glucose-sensitive neurons.

Objectives: Evaluate whether the long-term consumption of high-fat diets, enriched with either soy oil or lard, affects the responses induced by 2-deoxy-glucose (2DG), over food intake, serum glucose, triglyceride, cholesterol and hypothalamic AMPK.

Methods: Two-months old male Swiss mice were randomly assigned to standard chow (2.77 kcal/g) or high-fat diets (4.2 kcal/g) enriched with lard (saturated fat source) or soy oil (n-6 polyunsaturated fat source). Body weight and food intake were recorded weekly for 8 weeks. Mice were then i.p. injected with either saline or 2DG (200mg/kg) and had food available for 2 hours. After sacrifice, hypothalamus were dissected for AMPK and phosphorylated (p)AMPK analysis by Western blot. The adipose tissues (epididymal, retroperitoneal and mesenteric) were dissected and weighed. Blood glucose levels, triglyceride and cholesterol were determined by enzymatic methods. Thus, 8 groups were studied, according to diet and injection received: saline control (Csal), control 2-DG (C2DG), lard saline (Lsal), lard 2-DG (L2DG), soy saline (Ssal) and soy 2-DG (S2DG). Data were analyzed by ANOVA followed by either Turkey or Student’s “t” test.
**Results:** During diet treatment, daily food intake of high-fat groups was diminished (p = 0.0078) while their energy intake was similar to that of the chow-control group. Body weight gain was similar among the groups but the lard diet increased adipose tissue mass (p=0.0025). 2DG injection failed to affect food intake in all three groups but it increased blood glucose levels in both the control and the lard groups (p=0.0155 and p=0.0261, respectively). The saline high-fat groups had higher triglyceride (L: p=0.032; S: p=0.025) and cholesterol (L: p=0.0408; S: p=0.0412) in comparison to the saline control group. The 2-DG injection increased serum triglycerides and cholesterol only in the control group (p=0.038; p=0.041; respectively), in comparison to animals that received saline injections. 2DG increased hypothalamic AMPK levels in the soy group (p=0.02) while pAMPK levels were increased only in the control group (p=0.007).

**Discussion/Conclusion:** The results indicate that both high fat diets similarly increased cholesterol, triglycerides and impaired hypothalamic AMPK activation, as shown by unchanged levels of pAMPK in response to 2DG-induced cytoglucopenia. Although the high-fat diets had similar caloric densities, the type of fat seem to be of relevance, since blood glucose failed to increase after 2DG only in the soy group and body adiposity just increased in the lard group.
PREVALENCE OF PONTICULUS POSTICUS AND PONTICULUS LATERALIS USING CONE-BEAM COMPUTED TOMOGRAPHY. SYSTEMATIC REVIEW AND META-ANALYSIS.

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Background/Introduction: Ponticulus posticus (PP), also called “Kimmerle’s anomaly”, foramen arcuale or foramen retroarticulare superior, is a bony anomaly of unknown origin located in the posterior arch of the atlas over the groove of the vertebral artery. The PP appears in lateral cervical radiographs as either a complete or incomplete, unilateral or a bilateral ring. Sometimes, a bony growth known as ponticulus lateralis (PL) is also observed extending from the lateral side of the atlas. However, the exact characterization of these structures is possible only by 3-dimensional (3D) study, including conventional computed tomography (CT) or cone-beam computed tomography (CBCT).

In recent years, interest in the prevalence of PP has increased considerably due to a possible association with head and neck symptoms. In addition, PP can easily be mistaken for a broad posterior arch of the atlas in cervical spine surgeries. Therefore, a meticulous preoperative planning is essential to avoid the PP as a starting point for a lateral mass screw decreasing the risk of the vertebral artery injury.

Objectives: To perform a systematic review and meta-analysis of the prevalence of ponticulus posticus (PP) and ponticulus lateralis (PL) by cone-beam computed tomography (CBCT).

Methods: A comprehensive search was performed in PubMed, Scopus, Science Direct, Lilacs, and OpenThesis databases to identify studies that evaluated the prevalence of PP or PL using CBCT scan. A grey-literature search was conducted through Google Scholar. The overall prevalence of PP and PL was calculated using the variance-stabilizing Freeman-Tukey double-arcsine transformation with an inverse-variance random-effects model. Separate analyses were
also performed according to gender, age, type of anomaly, and location. Meta-analysis of single proportions were conducted in RStudio. Heterogeneity was investigated by the Cochran Q test using a cut-off of 10% for significance and quantified using the I2 index \[100\% \times \frac{(Q-df)}{Q}\].

**Results:** Five observational studies were included in the meta-analysis. There were 584 cases of PP diagnosed using CBCT scan among 2548 patients. An overall prevalence of 23.4% (range 13.3 – 35.2%) was estimated for PP without differences between genders. A minimal effect of age on the atlas bridging was observed. Most cases were diagnosed as partial PP, with a prevalence of 13% (range 6.3 – 21.6%). No significant difference was found among the unilateral and bilateral distribution. Only one study evaluated the prevalence of PL using CBCT scan (6.1%).

**Discussion/Conclusion:** PP is a common anatomical variation of the atlas. A possible association between this bony anomaly and head and neck symptoms need to be clarified. In this meta-analysis, we estimate a high prevalence of PP in CBCT scans, especially in the partial type. PP seems not be an age-dependent phenomenon.
PESTICIDES POISONING AND THEIR DAMAGES TO NERVOUS IMPULSE

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Background/Introduction: Pesticides are any substance or mixture of substances used to either prevent, destroy or control any plague. Among them, are three main kinds of pesticides: organochlorine, organophosphate (OP) and carbamate. Brazil currently uses an average amount of 1 billion liters of pesticides per harvest, and since 2008 is the recordist country on pesticides use worldwide. Twenty liters per cultivated hectare is the usual quantity, resulting in an annual consumption of 5 liters of chemical poison per brazilian citizen, reaching the mark of 31 liters in the rural population. Studies have shown that the composts in organophosphate and carbamate categories have the same action mechanism based on the acetylcholinesterase inhibition, an enzyme that catalyzes acetylcholine breakdown (neurotransmitter in neuromuscular junctions, responsible for transmitting nervous impulse), causing deleterious effects on the organism.

Objectives: This work has the following objectives: to show the relation between pesticides and the cholinergic receptors; to relate the main symptomatic aspects of organophosphate and carbamate intoxication; and to clarify the prevalence in brazilian population.

Methods: This work has a observational nature, because we intend to answer all that was proposed, to do it, the method used was a survey research, through which were analyzed articles from 2001 to 2013 in Scielo, PubMed and others scientific portals, besides text books analyses.

Results: The majority of articles deemed pesticides action as an anticholinesterase agent, inhibiting acetylcholinesterase, accumulating acetylcholine in cholinergic receptors, which avoids cholinergic postsynaptic impulses to cease in the right time, causing an hyper stimulation. Those articles have related mechanism and symptoms, and we could notice that the most common symptoms in a short term by OP pesticides were nausea (12,7%), headache.
(11,3%) and vomit (11,1%), and by carbamate was vomit (11,1%), miosis (10,1%) and abdominal pain (7,6%). We could correlate the acetylcholinesterase inhibition to deficiency in levels of dopaminergic neurotransmitters, which causes an irreversible degeneration of neurons that participate in movement control, promoting the advent of the main signs and symptoms of Parkinson’s disease. Other articles have shown also the prevalence of intoxications in society, stating it has a higher incidence in people between the ages 20 and 39, and the male sex are the most stricken. Besides that, the most frequent circumstance to the OP intoxications was accidental (39%), followed for occupational (36,6%), while over half of the intoxications by carbamate cases were suicide attempts (58,2%).

**Discussion/Conclusion:** In view of the recurrent prevalence of pesticides intoxication cases in Brazil, due to the easy acquisition of this products, as much to the lack of information to the population, some direct actions targeting the people that live and work in rural areas are necessary, and also people who has some contact directly or indirectly with the pesticides, and students. Thus, knowing that this topic is still being not quite discussed, this work tried to amplify the theme and to promote a debate on it.
K+ CHANNEL TETRAMERIZATION DOMAIN 5 (KCTD5) PROTEIN REGULATES FOCAL ADHESION DYNAMICS AND CELL MIGRATION

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Background/Introduction: K+ Channel Tetramerization Domain 5 (KCTD5) is a putative adaptor of cullin-3 E3 ubiquitin ligase, conferring substrate specificity to cullin-3 complex. Mass spectrometry-based proteomics analysis allowed us the identification of ~165 candidate KCTD5-interacting proteins, including 11 actin cytoskeleton-associated proteins required for cell migration and contractility. Thus, we propose that KCTD5 might regulate cell migration and contractility processes, which might be important for neoplastic disease pathogenesis and tissue reparation.

Objectives: We achieve to determine the role of KCTD5 in the regulation of cell migration and contractility.

Methods: We evaluated the KCTD5 role in cell migration by wound scratch and boyden transwell chambers assays by overexpressing KCTD5 in MEF and Rat-2 cells. KCTD5 localization was evaluated by immunofluorescence. Focal adhesions number and size was evaluated by immunostaining with an anti-vinculin antibody and confocal microscopy. To determine the role of KCTD5 in cellular contractility, we performed contraction experiments in 3D cultures by culturing KCTD5-EGFP-expressing MEFs in collagen lattices.

Results: KCTD5 predominantly localizes at perinuclear region. Moreover, KCTD5 colocalizes at vinculin-expressing territories, suggesting that KCTD5 also localizes at focal adhesions. KCTD5 overexpressing cells showed significant increase in cell contractility. Also, we observed that KCTD5 overexpression lead to an increase in cell migration. Moreover, we observed that KCTD5 expression increases focal adhesions number.
Discussion/Conclusion: Deregulation in protein ubiquitination has recently emerged as an important factor in the pathogenesis of numerous diseases. Interestingly, KCTD5 expression is increased in a variety of neoplastic diseases. In this work, we demonstrated that the overexpression of KCTD5 increases cellular migration, cellular contractility, and is involved in regulation of focal adhesion number. Together, these results suggest that KCTD5 might contribute to the migratory and invasive phenotype of different neoplastic processes. Thus, KCTD5 emerges as a potential target for complementary therapeutic tools for cancer treatment.
METABOLIC ANALYSIS OF BISPHENOL A (BPA)-INDUCED DISRUPTION OF THYROID HORMONE HOMEOESTASIS IN MALE WISTAR RATS

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Background/Introduction: Thyroid hormones (THs) regulate body energy balance, consequently, the existence of ubiquitous xenobiotics capable of impairing TH action is highly concerning. Bisphenol A (BPA) is a component of plastic food packaging, and can leach into food and water, contaminating them. Accordingly, altered TH concentrations were already observed in humans in the presence of BPA in serum. This can impact body metabolic rate and, in some extent, contribute to the ongoing increase in obesity around the world.

Objectives: The aim of the present study is to identify possible metabolic alterations that result from continuous exposure to BPA in peripubertal male Wistar rats using metabolomics analysis. Additionally, another goal of the present study is to identify which TH actions relate best to those metabolic alterations and, by extension, to elucidate the mechanisms by which BPA exerts its deleterious effects on human health, thereby raising the possibility to the development of novel biomarkers and therapies.

Methods: Serum samples from adult male Wistar rats exposed from post-natal day 50 to post-natal day 90 to BPA (control, 5 and 25 mg/kg) were submitted to quantification of 188 different metabolites through mass spectrometry analysis. TSH and thyroid hormones T3 and T4 were also measured in the same samples. Statistical analysis of the obtained data on metabolite concentration was performed using MetaboAnalyst, an open online software that allows comprehensive interpretation of metabolomic data. The results are presented as the correlation coefficient between the linear variation of different metabolites concentration, in different doses of BPA. Only correlations with p-value < 0.05 were included.
Results: The preliminary results from our early analysis suggest a strong influence of BPA on body metabolism. Out of the 188 metabolites measured, 84 showed statistically relevant variation through the different degrees of BPA exposure. Out of these, 42 were lipids, 22 were amino acids and the rest belonged to various biochemical classes.

Further analysis of the lipids subset showed even more interesting patterns. Of all the classes of lipids analyzed, the only which concentrations rose was phosphatidylcholines (PCs). PC are the last product formed in lipidic biochemical pathways, synthesized mainly from polyunsaturated fatty acids (PUFA) and are part of cell membranes. In total, 27 different PCs were upregulated in the presence of BPA. All the other lipids classes were downregulated, including PUFA. All other 19 lipids, from 5 other classes, were downregulated. In amino acids subset, out the 8 proteinogenic amino acids analyzed only one was downregulated: lysine (Lys).

Discussion/Conclusion: Downregulation of most lipids, except PCs, in the serum of BPA-exposed rats shows potential for further investigation. Upregulation in PCs alongside downregulation of all other classes of lipids suggests a disruptive effect of BPA on lipid metabolism, yielding a paradoxical biochemical phenotype and disruption in cell membrane function.

These results do not fit the literature completely with regard to BPA-impaired TH action. In BPA-induced hypothyroidism, energy expenditure would be decreased thus favoring energy storage in the form of long chain fatty acids and esters, but those were downregulated. Also, no sign of amino acid downregulation was observed. This implies that BPA disrupts TH action differentially for each class of metabolite, yielding much different phenotypes from classic hypothyroidism. This is an important evidence because it suggests that the ongoing obesity epidemic may not be due only to behavioral causes, but also to environmental exposition to toxic chemicals.
THE ROLE OF MTOR PATHWAY IN TARGETING A PUTATIVE CANCER STEM CELL-LIKE POPULATION IN ESOPHAGEAL CANCER

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Background/Introduction: Despite modern advances in the treatment of esophageal cancer (EC) most patients face poor outcome. Growing evidence indicates that cancer stem cells (CSCs) might contribute to the poor prospects. CSCs are resistant to chemoradiation (CRT) and can generate a new tumor. The mammalian target of rapamycin (mTOR) pathway is associated with CSCs. However, its interaction with EC CSC-like populations needs to be elucidated. Previously, we identified a putative CSC-like population (CD44+/CD24-) in cell lines and in patient material.

Objectives: Here, we investigate the role of mTOR pathway in regulating CD44+/CD24- CSC-like population.

Methods: mTOR inhibitor torin-1 and mTOR inducer MHY1485 were used to modulate CD44+/CD24- population in OE33 and BE3 EAC cell lines. After 48h of treatment, sphere forming assays and CD44+/CD24- expression measurement (FACS) were performed. Downstream proteins ULK1 and Atg13 were assessed by western blot to confirm biological effectiveness. Tumor organoids grown from EAC patient biopsies were cultured to validate the results.

Results: Inhibiting the mTOR pathway with torin-1 enhanced the CD44+/CD24- CSC-like population in both cell lines (p<0.01 both cell lines). Activating the mTOR pathway with MHY1485 resulted in the opposite effect (p<0.05 both cell lines). Furthermore, OE33 cells treated with torin-1 formed more spheres, (p<0.01) again treatment with MHY1485 had the opposite effect (p<0.05). ULK1 and Atg13 protein expression of the treated samples were either higher (torin-1) or lower (MHY1485) than controls indicating that the used concentrations were
effective. Tumor organoids could be self-renewed for more than 10 passages resulting in an increased expression of CD44+/CD24-.

**Discussion/Conclusion:** These findings indicate that the mTOR pathway is involved in regulating CD44+/CD24- CSC-like population. Potentially, this CSC-like population in patient derived organoids could be used as a predictor of clinical response to CRT. Also, the mTOR pathway modulating this population in these organoids is currently under investigation.
Background/Introduction: The Atezolizumab, anti-PD-L1 antibody, is an immunotherapy that allows the immune system to recognize the tumor cells as foreign and attack them. It is used, especially in melanoma, to enhance the T-lymphocyte activation. However, the effectiveness of anti-PD-L1 treatments in pediatric tumors is little known. In this study, we used the anti-PD-L1 antibody to check the presence of PD-L1 in tumor cells at the Children’s Hospital at Westmead.

Objectives: Screening Programmed Death Ligand - 1 (PD-L1) in children’s tumor at the Children’s Hospital at Westmead in Sydney, Australia.

Methods: We examined 600 patient samples in tissue microarray with primary and relapsed tumors, who underwent surgery at the Children’s Hospital, between 1950 and 2014. The Biobank of the Kids Research Institute provided the stained slides. The sections were deparaffinized, rehydrated, added with an antigen (rabbit anti-human PD-L1 polyclonal antibody), incubated overnight and added with a secondary antibody. IHC results were evaluated by scanning, amplification and were examined by two observers, further confirmed by a pathologist. Both the membrane and cytoplasmic PD-L1 positivity was considered. The negative control was a placenta sample, as referred in other studies.

Results: 600 patient’s samples from 1950 to 2014 were analyzed and 91 (15,1%) expressed positivity. Half of the samples (300) were neuroblastomas: 21,4% were positives. The mixed relapsed solid tumors had 31,4% of the 35 samples positives. The positivity rate was less important in the others: low-grade glioma (12,3%), medulloblastoma (12,2%), rhabdomyosarcomas (8,3%), chondrosarcoma, osteosarcoma, high-grade glioma, ewing’s sarcoma and relapsed brain tumor with <5%.
Discussion/Conclusion: Relapsed solid tumors and neuroblastoma samples expressed positive results in the screening. The aggressive features of these tumors might have some relation with the PD-1 escape response. Investigation of predictive factors of success of anti-PD-L1 in these tumors urge to further conclusions and potential treatment.
REDUCED SLEEP TIME DURING THE END OF PREGNANCY – EFFECTS ON OFFSPRING’S OVARIES MORPHOLOGY

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Introduction: The theory of fetal programming (BARKER, 1986) suggests that changes at the maternal environment are capable to cause modifications on fetus’s morphology and functions. Thus feeding and sleeping pattern changes could be associated with non-transmissible diseases on offspring. Nowadays the reduction of sleeping time has become very frequent. This sleep restriction is associated with alterations on the production of several hormones and development of arterial hypertension and metabolic disorders.

Objectives: As it was demonstrated by Barker and others researchers, changes at the maternal environment are capable to cause modifications on fetus’s morphology and functions. Thus, the main objective of the present work is to study the impact of reduced sleep time during the end of pregnancy on the offspring’s ovaries morphology.

Methods: Three months old female Wistar rats were set to mate with males. After confirming the pregnancy, the female rats were divided into two experimental groups: C (Control) and SR (Sleep Restriction, during the last week of pregnancy – 14th to 20th day). The sleep restriction was induced by the multiple platform method, during 20 hours per day. After the birth, there were selected 6 offspring of each mother, designated as C (offspring from C) and SR (offspring from SR). At the present study only female rats were evaluated. With 8 months old the rats were euthanized and the ovaries were removed, fixed and then embedded in paraffin for the manufacture of histological cuts. The tissues were stained with hematoxylin-eosin and Gomori’s Trichrome. Two histological cuts were evaluated of each animal. The follicles were counted and classified in developing and mature follicles. It was also evaluated the weight of the uterine body. Data expressed as mean±EP.
**Results:** The mean of follicles observed in C was 4.0±0.8 while in SR rats the mean was 2.4±0.4 follicles (12 slides in each). Although the difference was not statistically significant this represents a decrease of almost 40% on the average of ovarian follicles. The total number of follicles found in the Control group was 48 while in Sleep Restriction was 29 follicles. These preliminary results suggest that sleep restriction during pregnancy may influence ovarian development of the offspring. However more experiments are needed to confirm this hypothesis. It was also found that the RS rats showed a reduction in uterine weight (SR: 1.0 Â± 0.05g; C: 1.3 Â± 0.1g).

**Discussion/Conclusion:** As conclusions of this work, the results suggest that sleep restriction during pregnancy may affect fetal development and compromise the ovarian development of the offspring. This can be said based on the reduction of the total number of follicles and the comparison between the averages of each group. These reductions can be influence of irregular circadian cycle by changing the relationship between the pineal, hypophysis and hypothalamus. In addition, some authors argue that in stressful situations central organs are privileged to the detriment of peripherals. However, further experiments are needed to confirm this hypothesis statistically.
ATRIAL SEPTAL POUCH – WHAT, WHERE AND WHY?

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Background/Introduction: The atrial septal pouch (SP) is a blind-ending diverticulum within the interatrial septum that occurs when the patent foramen ovale (PFO) is absent but the septum primum and septum secundum are not completely fused. Left-sided (LSSP), right-sided (RSSP) and double pouches could be observed. Recent studies have suggested that a LSSP is associated with cryptogenic stroke.

Objectives: The aim of this study was to provide a morphometric description of the SP and to identify whether multislice computed tomography (MSCT) or transesophageal echocardiography (TEE) is superior for SP imaging. The last aim was to determine if LSSP is associated with cryptogenic ischemic stroke using a meta-analytical approach.

Methods: Two hundred autopsied hearts were investigated. We obtained measurements and casts of the SPs, and we conducted histological staining (H&E) of the LSSPs. Additionally, 96 patients were included in the study. All patients underwent both: MSCT of the heart and TEE. The morphology of the interatrial septum was assessed in the same projection. We performed a systematic review and meta-analysis for studies that compared the presence of LSSP in subjects with cryptogenic stroke and no stroke control. Four studies (n=1446 patients) were included in the meta-analysis.

Results: In cadaveric material we found a LSSP in 47%, RSSP in 11% and PFO in 25% of hearts. We found that the PFO occurred more often in younger hearts, and the SP and smooth septum were more prevalently found in older hearts (p=.0023). The mean depth of LSSP and RSSP were 8.4±5.1mm and 6.2±3.4mm, respectively. The mean volume of the LSSP was 0.31±0.11ml, which represented 13.6±9.4% (range: 3.1–44.9%) of the left atrial appendage
volume. The RSSP mean volume was 0.25±0.08mm. The SP shape resembled a cone or a cylinder with some secondary diverticula. The LSSP free wall was composed of two layers of endocardium, between which transverse muscle fibers and connective tissue could be observed. In MSCT, the interatrial septum was classified as: LSSP (37.5%) and RSSP (2%). In TEE: LSSP (39.6%), RSSP (19.8%). Cohen's kappa coefficient between the MSCT and TEE was 0.69. In meta-analysis the cryptogenic stroke was present in 189 cases. The risk of the cryptogenic stroke in patients with the LSSP were higher compared to the patients without LSSP (OR=1.56; 95%CI=1.06-2.28; p=.02).

**Discussion/Conclusion:** The LSSP is present in almost half of cases. The SP arises as a result of PFO channel closure. It leads us to a theory of continuous, lifelong remodeling of the interatrial septum in which the PFO evolves into an SP or smooth septum. All of the LSSP’s anatomical features predispose it to thrombi formation through the mechanism of blood stasis. The TEE is superior to MSCT in imaging the SP, with the sensitivity comparable to post-mortem examination. Our meta-analysis demonstrated association between LSSP and cryptogenic stroke. Additional clinical studies may fill the gap and render the SP a significant player in the story of thromboembolic episodes arising from the left atrium and an achievable target for catheter-based intervention or surgical therapy.
SCIENTIFIC REASONING AND ITS RELATION WITH ACADEMIC AND SOCIODEMOGRAPHIC FACTORS IN MEDICAL STUDENTS FROM THE UNIVERSITY OF CHILE

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Background/Introduction: Scientific reasoning consists of the application of methods in order to solve different kinds of problems. It involves abilities required for creating, testing and reviewing hypothesis and even pondering the process of acquisition of knowledge and its amendments. This are skills to be developed during undergraduate training because they are assumed as compulsory for a right performance of medicine, profession that generates knowledge and is partially supported by scientific awareness.

Objectives: The objective of this research project is to quantify scientific reasoning, from a descriptive and analytic view, and contrast the results with sociodemographic and cultural factors. The cohort is the first year students of the medical school at the University of Chile that voluntarily took a scientific reasoning test. Despite the expected homogeneity of medicine students, there are many differences among its members to be contrasted with their results during this research.

Methods: 158 medical students (72 female and 86 male) from the molecular and cellular biology course during the second semester year 2015 at the University of Chile were studied. A scientific reasoning measuring test was created. It consists of 25 multiple-choice questions that were taken and adapted from literature or specially designed and peer-reviewed for this purpose. The target group was classified and the following variables were analyzed and contrasted with the results of the test: gender, region of origin, high school and grades obtained.
during exams and written quizzes during the biology course. Standardized mean difference was estimated and correlation studies were made using Stata 11.0 software.

**Results:** The test general average was 19.46 points (SD: 2.70), and there were differences in some of the sub-groups within the cohort. The results were studied separating the students by gender, origin and school financing system. The results showed an average of 19.91 points for males, 18.91 for females (p<0.05), 19.65 points for students from the metropolitan region, 18.86 for those who came from other regions (p=0.06), 19.51 for students from public schools, 18.52 for students from semi-private schools, and 19.81 for students from private schools (p<0.05 for semi-private vs private schools). The relation between the test results obtained by each student and their performance during the course was also analyzed using the Pearson product-moment correlation coefficient. There were significant relations (p<0.05) comparing our test results with the performance on each of the three partial theoretical tests, with their average, with the first practical exam, and also with the presentation grade.

**Discussion/Conclusion:** We have developed an academic tool that was meant to measure scientific reasoning and ended being sensitive to academic and sociodemographic factors, despite the homogeneity of the studied population. This is important in the context of great inequality widespread across Latin America, and as scientific skills are inherent to medicine, knowing how to make a better approach to all students while teaching basic sciences would help the fight against inequality at a superior education level. Understanding how do scientific reasoning skills affect a basic science course such as molecular and cellular biology is important when designing and optimizing educational strategies with the goal of acquiring mindsets of higher-order thinking. Furthermore, using this test, we can study how related is scientific reasoning to academic success at medical school, helping to better focus the curriculum in the future.
USE OF PASSIFLORA EDULIS IN WOUND CICATRIZATION: A REVIEW ARTICLE

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Background/Introduction: During the cicatrization there are steps of inflammation, chemotaxis, cell proliferation, differentiation and tissue remodeling (Carrico et al., 1984), which are due to trauma or surgery. The yellow passionflower, Passiflora edulis, showed anti-inflammatory action by inhibiting white blood cells and neutrophils in a study that examined an extract from passionfruit (Zucolotto et al., 2009), which is popularly used in southern Italy for burns and skin inflammations (Passalacqua et al., 2007).

Objectives: This review aims to analyze the use of Passiflora edulis in the cicatrization of wounds, the anti-inflammatory action developed, and also be used in cases of burns and skin inflammations.

Methods: This article is a systematic review. The subject by observing the use of Passiflora edulis in burns was set. The literature review was conducted in order to elucidate this practice and improvement by the substance, thinking on the relationship of its use with the cicatrization process. After this was done in the PubMed database using the descriptors "Passiflora edulis" and "cicatrization" and "healing" the search items for this review article. They were included in this review articles that showed the relationship between the use of Passiflora edulis and healing. The articles that portrayed another purpose for the use of this substance were excluded. Six articles, of which five articles were analyzed in their entirety, were found.

Results: The cicatrization of skin wounds, the treatment with Passiflora edulis extract no difference in the healing rate, but differ with increasing fibroblast and collagen deposition (Garros et al, 2006). In the cicatrization of colonic anastomosis end to end, the use of this extract increased polymorphonuclear cells in the control group and the proliferation of fibroblasts in
the experimental group (Bezerra et al., 2006). According to Silva et al. (2006), there is no
difference in burst pressure in gastric sutures in rats postoperatively, but no greater proliferation
of fibroblasts on the 7th day of the treated group. In rats midline laparotomies this extract
improves inflammation and suture breaking pressure (Gomes et al., 2006). In the longitudinal
incision in the bladder there was less acute inflammation, increased collagen formation and
increased capillary neoformation in the group of rats treated group (Gonçalves et al., 2006).

Discussion/Conclusion: Analyzing the articles, we can see that have been developed for
different applications through surgeries involving suture in different organs that evaluated the
use of Passiflora edulis on the cicatrization rate, amount of fibroblasts, collagen deposition,
burst pressure in sutures, inflammation and capillary neoformation. The Passiflora edulis
extract shown to reduce inflammation, increase fibroblasts and collagen deposition in the
wound during the cicatrization process after surgery without increasing the cicatrization rate.
Moreover, the suture burst pressure showed different characteristics in the studies, possibly due
to difference in the structures that can increase or decrease the tension of the suture through the
power lines of incisions in various structures. Thus, it is necessary more studies to compare the
results and get new information about Passiflora edulis in the wounds cicatrization.
USE OF CABBAGE EXTRACT OINTMENT (Brassica oleracea var. capitata) IN PROCESS OF CICATRIZATION FOR SECOND INTENTION OF CUTANEOUS WOUNDS IN WISTAR RATS.

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Background/Introduction: Brassica sp is used for abscesses cicatrization and reducing inflammation of various etiologies (Balbach; Boarim, 1993). An ointment of white cabbage extract base (Brassica oleracea) developed by the University of Vale do Rio Doce in conjunction with the compounding pharmacy Doctor Pharma, has proven effective in wound recovery time. This cabbage is rich in vitamin C, and it’s one of the species selected for pharmacological and toxicological studies.

Objectives: By the use of white cabbage (Brassica oleracea) as a cicatrizing and anti-inflammatory in the popular culture and its current production of commercial ointment for the purpose of improvement of the healing process, this experiment is a qualitatively analyze of the Brassica oleracea ointment effects in skin lesions realized in Wistar rats by macroscopic observation and light microscopy.

Methods: The literature review was conducted to prepare the research project, which was approved by the Ethics Committee (No. 221/2014). In this experiment we used 32 Wistar rats, white, female, weighing between 220 and 250 grams, the vivarium, in individual cages under controlled conditions of temperature and light, with water and feed "ad libitum". Divided into 4 groups: A (Dersani), B (0.9% saline solution), C (Brassica oleracea ointment and glycolic extract 10%), D (ointment used in group C without Brassica oleracea). Trichotomy was performed in the dorsal region of the rats, following with anesthesia and three incisions with an approximate circular area of 1 cm square. The Macroscopic analysis examined daily crust, signs of inflammation and secretion, the lesions were registered by photographs on days 7, 14 and
21. After this register, it was held the collection of wounds fragments, which were fixed and stained with hematoxylin and eosin for examination on the light microscopy.

**Results:** The macroscopic analysis of the wound to seven days, the groups A and C showed hyperemic area, crust and secretion; group B presented purulent discharge and thin crust; D group showed thick crust. At 14 days the groups A and C had closed wound; in groups B and D there were crust. At 21 days the macroscopic analysis was similar in both groups.

Microscopic analysis of the wound on the 7th day, the re-epithelialization was observed in the basal layer cell proliferation and neovascularization in the C group; the group A presented granulation tissue. On the 14th day the C group presented earlier re-epithelialization and the dermis with more collagen fibers grouped in relation to other groups, qualitatively; in this period the vascularization was more pronounced in the groups A and C. At day 21, there was a complete re-epithelialization in wound areas. In group C, it was noticed better epithelialization, including formation of the cornea layer, dermal papillae and great vascularization.

**Discussion/Conclusion:** Several drugs produced from medicinal plants are used as cicatrizing. According to Marques et al (2004), the use of Dersani reduced wound area by granulation tissue formation and the epithelialization, which was reproduced in this study, and it was also observed a similar effect in the group treated with the ointment Brassica oleracea. Comparing the results of this experiment with results Rebolla (2012), both on the 7th day, the wound treated with the ointment Brassica oleracea generated reepithelialization covering the lesion almost completely. The histopathological analysis also revealed that the group C showed epithelialization is earlier in relation to other treatments. According to this experiment, the ointment Brassica oleracea proved to be more skin wound therapy for enhancing epithelialization and granulation tissue in wounds decreasing the cicatrizing time. It’s necessary quantitative studies to analyze other variables not approached in this study.
THE ROLE OF SNAIL1 IN THE CLONOGENIC CAPACITY OF PROSTATE CANCER CELLS.

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Background/Introduction: In Chile, prostate cancer (PCa) is the sixth leading cause of cancer death in men. In this context, it is relevant to investigate potential therapeutic strategies to improve current treatment. Epithelial-to-mesenchymal transition (EMT) is considered a critical feature of epithelial tumors, giving rise to a population of highly motile and invasive cancer cells. The Snail transcription factors have been directly involved in the role of inducing this transition. However, whether and how regulation of Snail1 influences clonogenicity of PCa cells have not been clearly determined.

Objectives: In this research, we discuss the role of Snail1 in the clonogenicity of prostate cancer, studying whether and how the down-regulation or up-regulation of this transcriptional factor set its influences on this property, which is essential in the metastatic process. We also set forth to describe the morphology of cells with overexpression of Snail in the context of EMT.

Methods: Two colony assays using human PCa cell lines, LNCaP and PC3, were realized. The assays included cells in different conditions: Snail1 overexpression, Snail1 knock-out, wild-type and transfection controls. Later, the analysis was performed by counting the number of colonies in each condition. The statistical comparisons were realized using the test of equality of variances Levene ANOVA and Tukey, n=3 tests for each cell line. For the morphology analysis, cells with overexpression of Snail was observed under a microscope connected to an Olympus C-4040 Zoom digital camera CAM DIG.

Results: In this study, it was found that the cells with Snail1 overexpression registered a significantly less number of colonies compared with the wild-type and Snail1 knock-out
conditions, in both PC3 and LNCaP cell lines. This results suggest that Snail1 would not been involved in the increase of the clonogenicity of prostate cancer cells, but contrary, the overexpression of Snail1 could inhibit the clonogenicity by significantly reducing the number of observed colonies. Furthermore, the colonies with Snail1 overexpression showed a more disaggregated and fusiform morphology compared with the knock-out condition. This mesenchymal cell phenotype agrees with previous studies that relate the Snail1 overexpression with the EMT.

Discussion/Conclusion: According to the morphological analysis exposed in the present research, it is concluded that Snail1 induces the adoption of a mesenchymal phenotype by prostate cancer cells, agreeable with previous studies that associate this cells to a state of transition. These suggest that inhibition of Snail1 might be a potential treatment of prostate cancer.

In addition, it can be concluded that Snail1 does not increase the in vitro clonogenicity of LNCaP and PC3 prostate cancer cell lines. Funding: Fondecyt Nº 1151214.
SPORADIC ALZHEIMER'S DISEASE ANIMAL MODEL INDUCED BY ICV-STREPTOZOTOCIN DEMONSTRATES ALTERED THERMAL PREFERENCE AND SOCIAL INTERACTION IN RATS

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Mentor name: Prof. Dr. Daniel Carneiro Carrettiero

Background/Introduction: Alzheimer’s disease (AD), the most common form of the neurodegenerative disorders, is characterized by intensive and progressive cognitive decline and neuropsychiatric symptoms, and is sporadic in origin in the majority of the cases. Impaired thermoregulation is one important risk factor related to the development of the sporadic AD and the histopathological hallmarks – amyloid plaques and neurofibrillary tangles. Besides that, apathy, one of the most common and premature symptom, affects about 75% of AD patients and is predictive of cognitive and functional decline.

Objectives: Explore the thermoregulatory profile and social interaction in an animal model for sporadic Alzheimer’s disease, induced by intracerebroventricular (icv) injections of streptozotocin (STZ), 30 days after the injections.

Methods: Animals (3-4 months old; weight 350-400 g) had a miniature temperature datalogger implanted into the peritoneal cavity, in order to measure the abdominal temperature (Tc) during 30 days. Sequentially, they received bilateral injections of streptozotocin (2 mg/Kg) or citrate buffer for the vehicle-treated (VT) animals. 30 days after, spatial memory impairment (using Y-Maze and Barnes Maze task) was evaluated in order to validate the sporadic AD animal model. In Y-maze and Barnes Maze task, respectively, number of entries into Unknown Arm (UA) and frequency of exploration of the target hole were evaluated. Thermal place preference of the animals was measured using three different challenges: 30 vs. 35°C, 26 vs. 30°C and 20
vs. 26°C. To analyze the social interaction, unknown rats (streptozotocin- or vehicle-treated and naïve) were put in pairs and time spent in social interaction was evaluated for 5 minutes.

**Results:** In Y- and Barnes Maze task, STZ-treated animals demonstrated, respectively, a lower number of entries into UA when compared to VT (3.90 ± 0.27 and 5.10 ± 0.37, respectively; p = 0.02) and a lower number of pokes in the target hole (2 ± 0.36 and 3.5 ± 0.42, respectively; p < 0.008). Regarding the thermoregulatory profile, no significant difference in Tc was observed between groups (p > 0.05). In Thermal Place Preference task, in the 30 vs. 35°C challenge, both groups preferred 35°C (VT: p = 0.008; STZ: p =0.005), with no intergroup differences (p = 0.97). Similarly, in the 26 vs. 30°C challenge, both showed preference for 30°C (VT: p = 0.0006; STZ: p = 0.002) and no intergroup difference was observed (p = 0.95). However, in 20 vs. 26°C challenge, although both showed thermal preference for 26°C (p = 0.0001), STZ-treated rats spent less time at 20°C (p = 0.04) compared to the VT (p = 0.04), indicating cold-avoidance. In social interaction task, the percentage of time spent by the STZ-treated in social interaction with naive was lower – 53.7 ± 2% of the total time of the task - when compared to VT rats (65.7 ± 0.6%) (p = 0.01).

**Discussion/Conclusion:** Although the sporadic AD animal model had not demonstrate significant alteration in core body temperature, it had altered its thermal preference, featured by cold-avoidance (20°C floor temperature), a finding that corroborates with studies involving the hypothermia and the cold exposure as a risk factor to the development of the sporadic form of Alzheimer’s disease and the formation of neurofibrillary tangles. Besides, social interaction was reduced in STZ-treated rats. Since the apathy is a NPS found in approximately 75% of the AD patients, this finding strengthens the model, seeing that information about the STZ action in brain is scarce and due to the constant search for an animal model that mimics the greatest amount of features of an Alzheimer’s disease patient for most effective results.
ANALYSIS OF CARDIAC TISSUE OF FEMALE OFFSPRING FROM RATS SUBMITTED TO SLEEP RESTRICTION

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Mentor name: Gomes, G.N

Background/Introduction: Systemic arterial hypertension (SAH) is a multi-factorial disease in which there are one or more alterations in mechanisms involved at the regulation of the blood pressure. In Brazil, the prevalence of hypertension is around 20% depending on the geographic area and affects men and women. Considering that changes in the intrauterine environment may alter fetal development predisposing to the development of non-transmissible diseases such as hypertension, and that sleep restriction interferes with important physiological functions resulting in hormonal and autonomic modifications and during pregnancy may alter the fetal environment.

Objectives: The objective of this study was to examine the impact of sleep restriction during pregnancy on blood pressure and on the morphology of the cardiac tissue of female offspring at adulthood.

Methods: This study was approved by the Ethics Committee of the Federal University of São Paulo – Escola Paulista de Medicina (CEUA: 7647020614). Wistar rats, 3 months old were divided into 2 groups: C (control) and RS (sleep restriction between the 14th and the 20th day of pregnancy). The pregnancy was confirmed by vaginal smear. RS rats were subjected to sleep restriction by the method of in water-platform, for 20 hours a day. After the birth the litters, were selected: 4 males and 2 females and were designated as C (control) and RS (restricted sleep). Males were not used in this study. To abolish the effect of female sex hormones in this experimental protocol, half of the offspring (C and SR) was subjected to ovariectomy surgery, the other half underwent sham surgery. Thus, there were four experimental groups: control sham (CS), control with ovariectomy (CO), sleep restricted sham (RSS), and sleep Restricted with ovariectomy (RSO). The evaluations were performed at 8 months old. Parameters studied:
Indirect blood pressure by plethysmography (PA), and the morphology of the cardiac tissue to investigate the relationship between increased blood pressure with changes in heart tissue of female offspring from rats subjected to sleep restriction during pregnancy. After measuring the blood pressure, the animals were euthanized. The heart was isolated and then dipped in liquid Bouin, in which remained for 24 hours. Following, the dehydration, diaphanization, impregnation with liquid paraffin and then the inclusion were performed. The cuts were made in the thickness of 5 µm and were stained with hematoxylin and eosin (HE) for overall morphology analysis and by the method of Alcian Blue (AB) pH 0.5 for identifying deposits of sulphated acidic mucosubstances possibly related to degenerative and / or ischemic processes.

**Results:** We observed that the rats of the groups CO, RSS and RSO had values of blood pressure significantly higher than those observed for the CS group (CS: 125 ± 0.7, CO: 131 ± 0.8, RSS: 131 ± 0.5; RSO: 138 ± 0.5; mmHg). The morphological analysis was performed in only two experimental groups (CS and RSS). The preliminary morphological analyzes of the sections stained with HE indicate that cardiac morphology of both groups are preserved. Regarding sections stained with AB, it was noticed the presence of sulfated acid mucosubstances on the cardiomyocytes from RSS rats. This finding may be associated with ischemic and / or degenerative processes.

**Discussion/Conclusion:** Preliminary analysis indicates that the cardiac tissue is intact and it is necessary to investigate the disposition and thickness of the cells, in case of hypertension; AB staining sulfated acidic mucosubstances points that can be linked to the aging/ischemic process, however these data are preliminary and more experiments are needed to confirm the hypothesis.
THE RELATION BETWEEN CRACK COCAINE ADDICTION, EARLY LIFE STRESS AND ACCELERATED CELLULAR AGING AMONG WOMEN

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Background/Introduction: Early life stress (ELS) and addiction are related to age-related diseases and telomere shortening in some researches. However, the role of telomere length (TL) in crack cocaine addiction remains unknown.

Objectives: The aim of this study was to investigate the TL in a sample of crack cocaine dependent-women who reported an ELS history and in a community-based sample of elderly women as a reference group for senescence.

Methods: This study included treatment seeking crack cocaine dependents women (n = 127) and elderly women without a psychiatric diagnosis (ELD, n = 49). The crack cocaine sample was divided in two groups according to their Childhood Trauma Questionnaire (CTQ) scores: presence of history of childhood abuse and neglect (CRACK-ELS) and absence of ELS history (CRACK). TL was assessed by T/S ratio obtained from peripheral blood DNA using quantitative PCR assay.

Results: CRACK and CRACK-ELS subjects exhibited shortened TL in comparison to the ELD group, despite their younger age. Among crack cocaine sample, CRACK-ELS group had significantly shorter telomeres than the CRACK group. Correlation analysis within crack cocaine group indicated that TL was negatively correlated with emotional abuse scores.

Discussion/Conclusion: These results support previous findings associating telomere shortening with both ELS and drug addiction. This study suggests new evidence of a distinct
biological phenotype for drug-dependent women with ELS. The results support the biological senescence hypothesis underpinning ELS experience.
ANTINEOPLASIC POTENTIAL OF SYNTHETIC THIAZOLIDINONES IN C6 GLIOMA CELLS AND CYTOTOXIC EFFECT IN ASTROCYTES

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Mentor name: Spanevello, R. M. – UFPel

Background/Introduction: Gliomas are cerebral tumors which originate from glial cells, classified by WHO in classes I to IV, according to its prognosis and histological features. Class IV gliomas, known as glioblastoma multiforme, has a 5 year mortality rate superior to 90% and overall survival of 12.6 months. Current treatment to GBM consists in complete surgical excision, when possible, associated to radio and chemotherapy and almost all patients suffer disease recurrence because of GBM’s chemoresistance.

Objectives: Thiazolidinones are molecules with diverse therapeutic potential already related worldwide, with hypoglycemic, anti hypertensive and anti seizure potentials. Thiazolidinones anti neoplastic potential is well described in breast, lung and central nervous system tumors. This study’s objective was to analyze the antineoplastic potential and in vitro toxicity of 4 synthetic thiazolidinones molecules never studied before in C6 glioma cells and astrocytes (model of non-transformed cell).

Methods: The 4 thiazolidinones were synthesized in the Laboratory of Chemistry Applied to Bioactives of UFPel from multicomponent reactions and the chemical structure of each compound varies according to the aldehyde used. C6 cell line was obtained from American Type Culture Collection and was cultivated in DMEM medium with 5% of fetal bovine serum. Primary culture of astrocytes was realized according to the method described by Gottfried, under ethics committee number 9219. Line cells cultures were exposed to treatment with 4 thiazolidinones (G32, G34, G50 and G66) in a concentration curve (6.25 to 500μM) for 72 hours; DMSO was used as control. C6 cells
and astrocytes primary culture viability was evaluated by determination of reduction from soluble MTT to formazan.

The experiments were realized in triplicate and to the statistical analysis, one way ANOVA test was used and then a post-hoc of Tukey. Data was considered significantly different from control for P ≤0.05.

Results: G32 presented antineoplastic potential after a concentration of 12.5 μM, while the higher concentration tested showed a reduction of 80% of the cell viability in C6 glioma cell line without evidence of citotoxicity to astrocytes, even in high concentrations, showing selectivity to cancer cells.

G34 presented a dose-dependent profile with reduction around 50% in viability of glioma cells after concentration of 100 μM, without citotoxicity to astrocytes, even in the highest concentration studied.

G50 showed antineoplastic potential in all concentrations tested (P<0.001), reducing glioma cells viability by 60%, without presenting toxicity to astrocytes.

G66 presented antineoplastic potential in every concentration tested, showing potential to reduce glioma cells viability after concentration of 6.25 μM, with decrease of 70% of cell viability after 100 μM, while citotoxicity to astrocytes statistically significant was observed only in concentration of 500 μM, with reduction of 40% in this cells viability.

Discussion/Conclusion: This research shows evidence of a promissory antineoplastic potential of four unpublished thiazolidinones molecules (G32, G34, G50 and G66) in C6 glioma cells with selective toxicity and wide therapeutic window, placing these molecules as a promissory therapeutic alternative to glioma patients. Even G66, that showed some toxicity to non-transformed cells, presented a wide therapeutic window. But, complementary studies are necessary to evaluate pharmacodynamics and pharmacokinetics of these molecules in vivo, to better elucidate its therapeutic potential.
COMPARISON OF PROTEIN EXPRESSION IN HUMAN SINOATRIAL NODE AND WORKING CARDIOMYOCYTES

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Mentor name: Wiesława Klimek-Piotrowska, Maciej Suski

Background/Introduction: Profiling the proteome of different tissues is fundamental in studying correlations between the molecular phenotypes of cells and the clinical characteristic of organs. To date, the human heart proteomic expression is not completely explored. Especially the proteomic profile of particular cardiac areas and structures and their quantitative and qualitative relations are still unrecognized. Particularly noteworthy is determination of the protein signature of two main components of the human heart: working cardiomyocytes and elements of electrical cardiac conduction system.

Objectives: The goal of this study was to assess the changes in protein abundance in the human sinoatrial node (SAN) compared with working cardiomyocytes in order to identify specific SAN protein signatures.

Methods: Four pair of samples (the SAN and working cardiomyocytes) were obtained post-mortem from four healthy human donors (age range: 28 –35 years old). We performed protein identification and quantitation using two-dimensional chromatography-tandem mass spectrometry method with isobaric peptide labeling (iTRAQ). Protein quantitation, based on iTRAQ reporter intensities was performed by DanteR ANOVA at peptide level, with a requirement of at least two measurements, by comparing SAN versus working cardiomyocytes peptides using a linear model.

Results: We identified 451 different proteins expressed in both the SAN and the working cardiomyocytes, 166 of which were differentially regulated (110 were upregulated in the SAN, and 56 were upregulated in the working cardiomyocytes). We frequently identified structural proteins of sarcomeres in both tissues, although they were differently distributed among tested
samples (e.g., myosin light chain 4, myosin regulatory light chain 2-atrial isoform and tropomyosin alpha-3 chain exhibited 2-fold overexpression in the SAN; myosin light chain 3 and myosin regulatory light chain 2-ventricular/cardiac muscle isoform exhibited 2-fold overexpression in the ventricle tissue). We identified a high number of mitochondria oxidative phosphorylation, β-oxidation and tricarboxylic acid cycle proteins predominantly associated (overexpressed) with working cardiomyocytes tissue. We revealed overexpression of fatty acid omega activation pathway proteins in SAN samples. Some proteins specific for smooth muscle tissue were highly overexpressed in the SAN (e.g., transgelin) this indicate that the SAN tissue may be considered as the cross-bridge between the working myocardium and the smooth muscle.

**Discussion/Conclusion:** Our study indicates that some proteins are differentially expressed in SAN and working cardiomyocytes which may suggest altered biological processes and cellular compartments in these tissues. The only one pathway of metabolic origin was indicated as exclusive for SAN – fatty acid omega activation pathway. This pathway may allow to protect the sensitive and crucial to life SAN tissue both from undernourishment and intoxication. Our results provoke discussion about possible implementation of proteomic strategies to identify in-depth functional differences between various heart sub-structures.
EFFECT OF GM-CSF (GRANULOCYTE MACROPHAGE-COLONY STIMULATING FACTOR) IN THE HIPPOCAMPUS OF TRANSGENIC MICE WITH ALZHEIMER'S DISEASE

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Mentor name: Beatriz O. Monteiro

Background/Introduction: Many studies support the idea that microglial supplementation may have beneficial effects for neurodegenerative diseases such as AD. Activated microglia is known for releasing many neurotrophic factors, such as IL-1β and IL-6, which have a clear benefit to CNS elements, including neurons and oligodendrocytes. Microglia also secrete anti-inflammatory mediators and growth factors.

In Vitro studies have shown that stem cells from bone marrow are capable of crossing the blood-brain barrier and differentiating into functional and activated microglia. This differentiation may be mediated by some cytokines, highlighting GM-CSF, a pro-inflammatory glycoprotein that promotes cellular growth and differentiation. GM-CSF signaling cascade culminates with the production of white blood cells from blood stem cells derived of bone marrow stimulation, and therefore would increase immune response to antigens.

With this in perspective, gene therapy with overexpression of GM-CSF in the CNS appears to be a promising way to understand microglial role in Alzheimer's Disease, since this cytokine would be produced on sites most affected by this disease.

Objectives: Our hypothesis is that the cytokine GM-CSF must be able to recruit bone marrow cells that differentiate into microglia being then able to improve the characteristic inflammatory status of AD.
Methods: Immunohistochemical analysis of transgenic mice with Alzheimer’s Disease (APPswe/PS1dE9) injected with GM-CSF in hippocampus.

Results:
GM-CSF was detected by immunohistochemistry for GFP, that was highly expressed in the hippocampus of AD-GMCSF mice. Additionally, GM-CSF increased the number of microglia and reduced the amount of Aβ plaques in the hippocampus when compared with uninfected mice (p < 0.05).

Discussion/Conclusion: We suggest that overexpression of GM-CSF into the hippocampus of AD mice modified inflammatory response, which has a direct effect on the formation of amyloid plaques present in Alzheimer’s disease.
RENAL AFFERENT INNERVATION CONTRIBUTES TO BAROREFLEX DYSFUNCTION IN RENOVASCULAR HYPERTENSION

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Background/Introduction: Hypertension is a major risk factor for heart disease and stroke, the leading causes of death worldwide. Blood pressure (BP) remains suboptimally controlled in some patients despite multidrug therapy. Thus, alternative treatment strategies have been explored and the interruption of the renal sympathetic and afferent innervation in resistant hypertensive patients has shown promising results. However, the mechanisms underlying the antihypertensive effect of renal denervation have not been elucidated.

Objectives: Previous studies from our laboratory showed that renal sympathoexcitation plays a key role in the renovascular model of hypertension (two kidney-one clip, 2K-1C). In the present study we hypothesized that the renal afferent fibers contribute to the increase in BP and baroreflex dysfunction in 2K-1C Wistar rats.

Methods: We performed three experimental groups: sham (n=7), hypertensive rats 2K1C (n=6), hypertensive rats 2K-1C with selective renal afferent denervation (n=7). The selective denervation (exposure of renal nerves to 33 mM capsaicin) of ischemic kidney was performed 4.5 weeks after induction of the hypertension (left renal artery clipping to produce partial ischemia). Following 10 days of renal afferent denervation, femoral artery and vein were catheterized for BP and intravenous infusion of drugs, respectively. Cardiac baroreflex sensitivity was assessed by intravenous infusion of phenylephrine and sodium nitroprusside to induce changes in mean arterial pressure (MAP) and reflex changes in heart rate (HR) in conscious rats.
**Results:** MAP was significantly increased in the 2K1C rats (2K1C: 190 ± 7 mmHg vs sham: 105 ± 2 mmHg, p<0.05) and selective denervation of renal afferents significantly decreased MAP in the 2K-1C rats to 157 ± 4 mmHg (p<0.05). No change was observed in HR among the experimental groups. The 2K1C rats showed a decreased baroreflex response compared with the sham group for the tachycardic (-45%) and bradycardic (-58%) responses. The reflex control of HR was augmented after the denervation for the tachycardic (47%) and bradycardic (85%) responses.

**Discussion/Conclusion:** Therefore, we conclude that the renal afferent fibers contribute to the increase in blood pressure and baroreflex dysfunction in the model of renovascular hypertension. There are clinical studies showing that the catheter-based renal denervation on resistant hypertension is efficient on reducing the BP. Combined with pharmacologic therapy, the selective removal of renal afferents may be an additional strategy for the treatment of patients with resistant hypertension and thus decreasing the risks of heart disease and stroke.
GENOME INSTABILITY LEADS TO NEURODEGENERATION VIA A COLLAPSE OF THE PROTEIN HOMEOSTASIS

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Background/Introduction: It has been well documented that DNA repair deficiencies not only predispose for cancer, but also for premature ageing and neuropathologies. For example, the neurodegenerative disease Ataxia Telangiectasia (AT) is caused by the loss of a kinase with a central role in DNA damage signaling, ATM (AT mutated). Why compromised DNA repair leads to neuropathologies has remained unclear. An imbalance in the protein homeostasis is often a hallmark in many other heritable neurodegenerative diseases.

Objectives: However, the pathologic mechanism and relation between a protein homeostasis imbalance and neurodegeneration has not been cleared. We test the hypothesis that DNA damage will become fixed into genomic alterations, giving rise to the expression of metastable polypeptides, this increase in metastable proteins will lead to a collapse of the protein homeostasis, whereby initiating ageing/neurodegeneration.

Methods: To test this hypothesis, we induced DNA damage in two distinct ways, by gamma irradiation and by inducing a compromised DNA repair system. We use different model organisms to test our hypothesis including C. elegans, D. melanogaster and different mammalian cell lines. Different parameters for an imbalance in the protein homeostasis were analyzed.

Results: We show an accumulation of aggregated proteins in ATM knock out cells. A similar accumulation is seen in brains from atm mutant flies. These results imply an imbalance in the protein homeostasis. Interestingly, a knock down of DNA damage response genes accelerated polyglutamine aggregation in C. elegans. and in ATM knock out cells. Similarly, folding of the model protein luciferase activity is decreased and aggregation increased. Finally, we observe
the accumulation of insoluble polyubiquitylated material in ATM knock out cells. Together, these data imply that DNA damage leads to an imbalance in the protein homeostasis. If this is true, a rescue of the DNA damage induced phenotype could be rescued by the help of molecular chaperones. We show that a molecular chaperone is able to decrease the amount of SDS-insoluble proteins in atm-deficient cells. Furthermore, over expression of the homologue of this chaperone in D. melanogaster rescues the DNA damage induced reduction in life span.

Discussion/Conclusion: We show that DNA damage induces an imbalance in the protein homeostasis, which contributes to DNA damage induced phenotypes. The DNA damage induced phenotype can be rescued by over expression of a molecular chaperone. We hypothesize that DNA damage will become fixed into genomic alterations, giving rise to the expression of metastable polypeptides that, in turn, cause a collapse in the protein homeostasis, thereby initiating ageing/neurodegeneration.
REVIEW OF THE LITERATURE ON THE USE OF CANNABIDIOL IN THE TREATMENT OF REFRACTORY EPILEPSY

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Background/Introduction: Epilepsy is as a spectrum disorder, of which convulsions are the main symptom. The current treatment for epilepsy consists of the use of antiepileptic drugs (AEDs), which, although efficient in the treatment of symptoms, do not present antiepileptogenic properties.

Cannabidiol (CBD), a compound extracted from the Cannabis plant, has different applications, such as the prevention of convulsion episodes, and is recommended as an option in the treatment of refractory epilepsy.

Objectives: This paper aims at conducting a review of the literature on the use of cannabidiol and its derivatives as an alternative therapy for refractory epilepsy. About 30% of epileptic patients present the refractory form of the disease, which is resistant to medication, and do not benefit from currently available forms of treatment.

Methods: The scientific articles selected had been published in international journals and were available in the PubMed database. Among the 20 articles found, five articles published in English between the years 2013 and 2016 were chosen, following the criteria of case-control studies and reports of use of the substance on patients. The following key words were used: epilepsy (refractory), cannabidiol (CBD), AED (anti-epileptic drug).

Results: Several reports of research studies can be found in the literature showing the benefits of CBD in the treatment of epilepsy, mainly related to the reduction of seizure in patients studied. As an example, there is a study in which 8 in 11 patients with refractory epilepsy presented practically 100% reduction in the number of convulsion episodes upon taking CBD. Another study reports that 58 patients who were also resistant to conventional treatment...
presented a 43% average reduction in the frequency of convulsion episodes 12 months after the beginning of administration of the drug. Moreover, another study in which CBD was administered together with the antiepileptic already used by patients, it was observed that 40% of the patients studied had a reduction of more than 50% in the frequency and duration of seizures.

**Discussion/Conclusion:** Almost one third of epilepsy cases are of the refractory type, therefore resistant to the treatments without CBD that are currently in use. As this pathology is related to high mortality and functional impairment, treatments that can contain seizures, such as CBD, are superior to others in refractory cases. Furthermore, the association of CBD to low concentrations of THC (another Cannabis component) has presented satisfactory results. The bibliographic survey conducted demonstrates that CBD has advantages in the treatment of refractory epilepsy, when compared with patients who did not use the compound. The use of CBD combined with other AEDs is also noteworthy, since the compound potentiates the action of such drugs. Further research on the subject is necessary in order to ensure the effectiveness of treatment and patient safety in the use of CBD as an alternative therapy for refractory epilepsy, since its mechanisms of action and possible interactions have not been fully elucidated.
ASSESSMENT OF TECHNOLOGICAL INNOVATION USE FOR THE STUDY OF HUMAN PHYSIOLOGY

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Mentor name: Dias, F. A. L. – UFPR

Background/Introduction: With the advent of technology and its incorporation into the academia, a critical assessment of its usefulness and effectiveness as a complementary learning tool becomes necessary. Currently, there are several resources whose use and effectiveness as a learning tool have not been evaluated, creating a need for empirical testing by users. The same is true when it comes to applications for mobile platforms as there are no objective data to assess its specific use by higher education students.

Objectives: The use of technological resources developed for portable platforms for learning in higher education courses in biological and medical sciences was evaluated in medical students of the Federal University of Paraná (UFPR), focusing on the use for the study of Human Physiology.

Methods: We conducted a cross-sectional study using a questionnaire with 8 questions and sub-items, including discursive or objective questions. The questionnaire asked about the time of use, type and name of the softwares and/or frequently used applications, as well as its positive and negative qualities. The sample was composed by students attending 1st to 8th and the 12th semester of the medical course at UFPR. Selection of study population was done by intentional sampling. Survey participants included only individuals who agreed and signed the informed consent. The variables measured are shown in relative frequency, average and percentiles.

Results: From a total of 750 students of medicine, 489 (62.5%) were evaluated. Regarding use of cell phones (n = 487), 59.55% of students (n = 290) reported Android operating system use and 36.55% (n = 178) IOS. Concerning tablets (n = 400), 39.75% of students (n = 159) reported
IOS use and 23.25% (n = 93) Android. Towards application use, 91% of the students (n = 445) use applications for studies and average hours of use was 4h / week. When asked about the influence of these applications in their study, 47.45% of students (n = 186) strongly agree that its use complements their studies, 36.13% of students (n = 142) agree that its use encourage their study. Overall average hours of study for the basic science disciplines was 2h32 / week and the clinical science disciplines 2h58 / week. Despite the wide use of applications in the basic science disciplines only 3.56% (n = 17) use specific applications for the study of physiology (average use was 2h42 / week).

Discussion/Conclusion: This study shows its relevance as being one of the first to evaluate the use of technological resources for the study of basic and medical sciences in Brazil. The user profile is characterized by Android operating system as the most frequent used on mobile phones and IOS on tablets. Regarding the use, 91% said they use applications as a way to study, and average hours of use was 4h / week. Although most medical students use applications for study purpose, this is not reflected in the use of specific applications for the study of physiology (3.56%). One can explain the low frequency of use of these technologies by the scarcity of physiology applications and the possible low quality of the existing ones. To supply this demand it is essential to develop a product suitable to the needs of the students designed for human physiology study that operate on Android and has reliable and didactic content.
CREATION AND EVALUATION OF ANDROID APPLICATION FOR STUDY OF HUMAN PHYSIOLOGY

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Background/Introduction: With the advent of smartphones many applications are designed to help college students in their studies but not all of them are reliable or have the effectiveness tested. In a previous study of the research group, the need to develop a study tool for mobile platforms that could assist students in understanding human physiology topics was identified.

Objectives: The study objectives were: 1) to develop an application for the study of Human Physiology in the format of "quiz" that also allows collaborative interaction and users’ ranking and is developed for Android operating system; 2) to test the application with a group of students to evaluate acceptability, identify app strengths and weaknesses to direct further improvements.

Methods: The app was developed in four stages: 1) bibliographical and technical survey related to technological requirements for the development of the application; 2) Development of Android application using Java language in conjunction with XML interface; 3) Development of database in the cloud using LAMP package as well as encodings research and requests to the database; 4) Development of data collection and cloud synchronization methods. Subsequent to the development of the application a pilot test was done recruiting 40 medical students of the Federal University of Paraná who attended the course "Human Physiology I". Selection of study population was done by intentional sampling. Survey participants were only individuals who agreed and signed the consent form.

Results: A data collection and local and cloud storage process was developed with the following characteristics: mobile module in the form of an Android application called
PhysioQuiz, which enables users to solve Physiology exercises, access support literature, report issues and access lab classes. The application also seeks to collect data such as the number of correct answers, personal user data and strategic information related to app use (average response time, average total time of app use). The application also allows communication, transmission and synchronization of information to the cloud; storage and replication of data, information exchange with the Android module and compilation of information stored. From a total of 40 students recruited who had granted access to the application, 12 effectively used the app offering a positive feedback and reporting overall great acceptance. Users’ opinions describe the app as practical, easy to use and containing broad topic contents.

Discussion/Conclusion: We developed an easy to use and practical app for human physiology study that fulfills the needs of the selected population. The online architecture and data bank developed, increased the app productivity as well as security because data transmitted are cryptographed. High productivity is due to high response speed from data bank to address searches, insertions and saved data editions. Furthermore, the trial students attested the app was helpful in physiology study and was adjuvant in building their knowledge. The relevance of the present research was the development and innovative and creative process and product specifically created to human physiology study that; however, has an architecture that can be applied to other topics in medical and biological sciences.
MORPHOLOGICAL IMPLICATIONS OF ANATOMICAL VARIATIONS OF TRUNKS AND CORDS IN BRACHIAL PLEXUS OF FETUSES

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Background/Introduction: Brachial plexus is an important nervous network arisen from the neural crest from the fourth week of embryonic period, formed by the anterior branches of the roots of C5, C6, C7, C8 and T1. The structure is responsible for the motor and sensory innervation of the upper limb. Recognition of anatomical variations is important to enable the understanding of clinical signs and symptoms in cases of injury and the practical application in surgical procedures.

Objectives: The purpose of this study was to identify anatomical variations of trunks and cords in brachial plexus of cadavers of fifth to ninth month of fetal age.

Methods: Twenty plexus of thirteen fetuses with median age of 24.5 (±2,5) weeks were analyzed. Eight fetuses were male and five were female. The study incorporated the following methods: identification of the fetal age, dissection, identification of anatomical variations, digital image acquisition and descriptive data analysis.

Results: Anatomical variations of brachial plexuses were found in 55% of the cases. The anomalies observed were: union of lateral cord with medial cord (27.2%); communication between middle trunk and medial cord (27.2%); participation of C8 with anterior division of the middle trunk (9%) and double contribution of lateral cord with median nerve formation (36.3%). Left side presented more occurrences of variations (72.7%).

Discussion/Conclusion: There was higher frequency of variations in the formation of cords than in the one of trunks. Medial cord formation presented more occurrence of variations than
lateral and posterior cords, indicating more variations of elements in the formation of median and ulnar nerve.
PROTECTIVE EFFECTS OF PHYTOTHERAPY ADMINISTRATION IN A MODEL OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE

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Background/Introduction: Smoking is strongly associated with the development of chronic obstructive pulmonary disease (COPD). This disease is estimated to be the third leading cause of death in 2020. Various inflammatory cells participate in the COPD process and are responsible for the release of chemical mediators and tissue damage. Different plant extracts contain chemical compounds with pharmacological activities which stimulate investigations on phytotherapy administration for the treatment of COPD.

Objectives: To analyze the efficacy of treatment with a combination of medicinal herbs extracts that exhibit anti-inflammatory properties and tropism for the respiratory tract in a model of COPD induced by cigarette smoking on histopathological features, chemical mediators levels and inflammatory cells profiles.

Methods: Wistar rats were divided into groups (n=5/group) and exposed to the smoke of 10 burning cigarettes, 2x/day (20 cigarettes), in a specific apparatus, for 8 weeks. After this period, 2 groups (ex-smokers) were subjected to the same system, but without the smoke, for 8 weeks. The control group was not exposed to smoke. To evaluate herbal medicine efficacy a blend of alcoholic extracts obtained from Arctium lappa, Plantago major, Equisetum spp. and Mikania
Glomerata Spreng, at a 4% concentration, was given daily, by gavage, to one of the smokers groups (before the smoking exposure) and to one of the ex-smokers groups. The inflammatory cells in the bronchoalveolar lavage were quantified in a Neubauer chamber. Sections of lungs and trachea were histopathologically analyzed. The lung’s mast cells were studied after Toluidine blue staining, macrophages quantification and NFκβ expression were verified by immunohistochemistry and Magpix panel was used for the IL1β, IL6, MCP1 dosages in plasma.

**Results:** The BAL analysis showed numerous lymphocytes and monocytes, especially in the untreated smoker group. Histopathological studies revealed metaplasia of the tracheal epithelium in the untreated smoker group but the tissue preservation occurred in the treated rats. The lungs showed aspects of pulmonary congestion, increased of the intra-alveolar spaces and influx of inflammatory cells in the smokers animals, though with minor alterations in the treated groups. The untreated smoker group showed numerous mast cells, mostly degranulated, increased intra-alveolar and septal macrophages and higher NFκβ expression in the lungs and also elevated levels of cytokines compared to control animals. However, the phytotherapeutic treatment promoted marked reduction in the inflammatory cells and mediators of inflammation, both in smokers and ex-smokers groups.

**Discussion/Conclusion:** The obtained results showed the potent anti-inflammatory and protective effects of herbal medicines extracts administered in combination on a COPD model by reducing the inflammatory cells in BAL and lung, preventing tissue damage in trachea and lung, decreasing NFκβ expression in lung and attenuating cytokines release to blood plasma. Our studies corroborate with other investigations that have demonstrated the anti-inflammatory properties of A. lappa, P. major, Equisetum spp. and M. glomerata extracts, used individually, in other models of inflammation but also emphasize the synergy among the herbs in protecting the body against inflammation. Together our data indicate that the extracts of A. lappa, P. major, Equisetum spp. and M. glomerata in combination may be useful to retard the progression of COPD and to provide better control of the disease exacerbations.
LIFE AFTER LOWER LIMB FRACTURE

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Background/Introduction: Physical activity is very important part of our live. Specially if we want be fit, health and happy. After fractures we have also improve our muscles and strength them. Nevertheless physical activity during post-traumatic period have been still performing rarely.

Objectives: to assess the level of patients activity after fractures.

Methods: The data were obtained using authors’ survey. Surveys was divided into 2 part: standards demographic questions (eg. Age, sex) and 14 open questions plus IV steps fear of next fracture scale. 127 questionnaire forms were filled in by patients of Department of Radiology, University Clinical Hospital in Bialystok. Data was analyzed with Statistica 12.5 (Test χ², p<0,05).

Results: We included 125 patients (54,76% W) into our investigation. The average patient age was 55 years (range: 18-98; ±20,16), high 168 cm (148-195; ±11,51), weigh 76 kg (48-164;±16,25); BMI 26,53 (19,10-38,28; ±4,12), had secondary education (40,47 %) and life in village (29,36 %). We found statistical significant relationship between education level and physical activity rate (p<0,001). Every day physical activity performed more often people with high school education than with higher (45,45 % vs. 18,18 %). Patients’ who had defined their fear after next fracture as the higher level in IV-steps scale, more often (p<0,01) than patients without any fear, avoided physical activity (73,68 % vs. 24,56 %). 72,22 % obesity and 56,82 over-weigh patients only seating home without any activity. Patients without coexistence diseases (e.g. diabetes mellitus, hypertension) more often than sick patients doing frequently physical exercise (74,51 % vs. 25,49 %; p=0,02).
Discussion/Conclusion: Obesity, over-weight patient avoided any activity during post-traumatic period of life. It can lead to weigh gain and another bad side effect e.g. poor fracture regeneration. Also patients with big fear after next fractures abandoned doing exercise. According to those results, patients after fracture should have education about benefits of physical activity after trauma.
ANAL INFECTION BY PARACOCCIDIODES BRASILIENSIS: AN UNEXPECTED PRESENTATION OF PAINFUL ANAL ULCER

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Background/Introduction: The anal form of Paracoccidioidomycosis (PCM) is an extremely rare condition. In 89% of the cases, the PCM is a pulmonary infection, and only in 1, 3% to 2, 4% it shows itself as the anal form. The main groups in risk of contracting this disease are farmers and residents of endemic areas, considering their increased exposure to this fungus that inhabits the soil. Some common habits among these groups, as picking the teeth with sticks and making the anal hygiene with leaves, can cause the PCM.

Objectives: The objective of this work is to report a case of anal infection by P. brasiliensis that is rather rare, and developing an anal ulcer as the outcome, is even rarer. As the range of differential diagnosis for anal lesions is large, we intend to call attention to the possibility of this fungus infection, especially in tropical areas and susceptible populations. We also want to spread the knowledge about this tropical disease, once that it is very unusual among the northern countries.

Methods: During the inspection, the patient presented a large circumscribed hyperemic elevated lesion located in the perianal area measuring approximately 1.5 cm along the anal verge, with purulent secretion drainage and edema, no other abnormalities were found during the Anoscopy and Proctoscopy. His previous blood tests showed no evidence of any sexual disease or immunodeficiency, so, the patient underwent a perianal skin biopsy. A histological cut of the skin was performed and then tinged with the Grocott Technique for the histopathological examination.
Results: Male, 53 years old, and farmer, with a severe anorectal pain, tenesmus and rectal discharge for about one year. Perianal lump of progressive growth in the last 6 months associated with swelling and pruritus. In the last couple of months, there were several episodes of anal bleeding during evacuation. The patient pointed the weight loss of 3 Kg in the last 6 months. No fever episodes or change in bowel habits. Our first hypothesis was an anal carcinoma due to the perianal, anal bleeding and weight loss, but he lives in the rural part of the South region of Brazil and had the habit to make his anal hygiene with leaves, what made us reconsider the possibility of an infection. The histological cut of the skin showed a dense, chronic inflammatory process, with eosinophils. And with the Grocott staining technique, we were able to see budding rounded fungal structures, with doubled walls, which is very suggestive of PCM. The biopsy showed an in infection by P. brasiliensis.

Discussion/Conclusion: It is estimated that 10% of the Brazilian population is infected by this fungus, and in the endemic regions (South, Southeast and Midwest), this number can reach up to 50%. Almost 90% of the infected population is men. Therefore, non frequent causes of anal lesions, as Paracoccidioidomycosis, must be considered, after evaluating the risk factors of the patient, such as recent visits to endemic areas or contact with infected soil and organic matter, even though the pulmonary form is much more frequent. Biopsy of the lesion should always be performed to confirm the presence of the fungus, and exclude other potentially fatal diseases as anal carcinoma.
THE PRE-ANESTHETIC EVALUATION FOR OPHTHALMIC SURGERY IN THE ELDERLY IS REALLY NECESSARY? THE REALITY OF A PUBLIC HOSPITAL

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Background/Introduction: Pre-anesthetic assessment (PAA) and laboratory tests are questioned for ophthalmic procedures due to their additional costs and surgery delays. These are lower risks, nonetheless, patients are elderly and suffer from multiple comorbidities.

Objectives: The aim of this study was to determinate if it is really necessary in a public hospital.

Methods: a retrospective study on 297 medical records containing the pre-anesthetic questionary from ophthalmic surgery patients in a public hospital was leaded. By the anamnesis, clinical examination and laboratory tests, the rate of patients who came up with unknown or uncontrolled diseases for the pre-anesthetic evaluation among with unsettled lab tests were analyzed.

Results: The patients’ mean age was 71.5 years old. 95.28% of them suffer from at least one chronic disease. The most prevailer illness was systemic arterial hypertension (SAH) (62.96%), which in 7.7% of were uncontroled. Also 2.3% had no diagnosis of SAH. The DM2 appeared in second (22.22%), with 5.3% without proper management. Glycaemia above 100 mg.dl-1 was found in 25.92%, undiagnosed; 84.8% of the total were taking at least one medication. Only 73.4% of patients were released for surgery in the first moment.

Discussion/Conclusion: To sum up, PAA in ophthalmology surgery is able to bring up undiagnosed diseases, or unstable medical conditions, and it plays a role not only in optimize the patient for surgery, but also as primary care. It can be an important deal to improve
population’s health, therefore, considered necessary in elderly patients in the public health system.
HEMORRHAGIC STROKE AS INITIAL PRESENTATION OF LEFT ATRIAL MYXOMA

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Background/Introduction: Twenty percent of strokes are cardioembolic, with atrial fibrillation as the most common cause (50%) while myxomas represent only 0.5% mostly due to arterial embolism in cerebral vessels. In one-third of cases cerebral infarction is the first clinical manifestation of cardiac myxomas; however, the diagnosis is often elusive in younger patients and may be held until the incipience of significant embolic disease, mainly stroke with functional impairment, to be presented in the case that follows.

Objectives: A 34-year-old female patient with no known comorbidity arrived at the emergency department reporting intense headache associated with nausea and vomits which later progressed to depreciation of the consciousness level and left-sided hemiparesis with brachial predominance. She had normal blood pressure and due to respiratory depression, the patient was put in mechanical respiratory assistance. The rest of the systemic evaluation was unremarkable.

Methods: Cranial computed tomography revealed a hemorrhagic stroke compromising the right frontoparietal lobe with ipsilateral ventricular collapse and midline shift; therefore, the patient was submitted to decompressive craniotomy and implantation of the right skullcap in the abdomen. Subsequently, a cerebral arteriography was performed with occlusion of a pseudoaneurysm in the cortical branch of the right posterior temporal artery. During hospitalization, the patient developed sepsis of respiratory origin, left hemiplegia, and the prolonged intubation led to a tracheotomy. In the meanwhile, a transesophageal echocardiogram was done to find a cardiac source of embolism. The exam revealed a mass in the left atrium measuring 8.3 x 3.1 cm occupying 80% of the atrial cavity and partially blocking the left ventricle inlet. The tumor had irregular edges and hyperechoic foci and was attached to
the atrial septum by a fibrous cord with small projection into the right atrium through the foramen ovale. The patient underwent cardiac surgery for resection of the mass despite her neurological sequelae. Histopathology confirmed the diagnosis of cardiac myxoma.

**Results:** Postoperatively, she remained well without any surgical complications. Due to persistent fever, the patient received antibiotics with coverage for gram positives, gram negatives, and fungi. She remained hospitalized for three months until decannulation. After stabilization, she was discharged with persisting left hemiplegia and dysarthria. Rehabilitation started immediately including physiotherapy, speech therapy and occupational therapy for her residual deficits. Despite all efforts, the patient remained with severe functional impairment due to the hemorrhagic stroke. There were no signs of cardiac myxoma recurrence after two years of follow-up.

**Discussion/Conclusion:** Heart failure, constitutional symptoms, and embolic manifestations are cardiac myxoma’s classic triad of symptoms. Embolic events occur in 10-45% of patients. Intracranial manifestations include cerebral arterial embolism with ischemia, neoplastic aneurysm development with or without hemorrhage, and intraparenchymal metastasis. Given these different events, neurological symptoms will vary and include neurological deficits, psychiatric symptoms, headaches, hemorrhages, syncope, and epilepsy. That is why cardiac myxoma diagnosis can often be missed even though it is a potentially treatable condition. Patients undergoing open heart surgery with recent cardiogenic embolic stroke or central nervous system dysfunction poses a challenging issue. Cardiopulmonary bypass and heparinization may intensify the neurologic damage, and there is no clear data demonstrating a safe interval from the onset of neurologic symptoms to the time of surgery. Even so, it is vital to detect the myxoma rapidly and prevent its complications since early surgical intervention is a definitive treatment.
A PICTORIAL PRESENTATION OF ESOPHAGEAL HIGH RESOLUTION MANOMETRY CURRENT PARAMETERS

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Background/Introduction: High resolution manometry (HRM) is the current technology used to the study of esophageal motility and is replacing conventional manometry in important centers for esophageal motility. Therefore, it is essential that specialists and researchers are familiar with the parameters used in current studies. The parameters used on esophageal motility follow the Chicago Classification (CC). This classification has been created by experts on esophageal motility and to unify HRM interpretation and classify esophageal disorders.

Objectives: This review is aimed to allow an easy comprehension and interpretation of HRM studies.

Methods: This review shows, in a pictorial presentation, the new parameters established by the third version of CC.

Results: The parameters are: Esophagogastric morphology, that classifies this junction according to its physiology and anatomy; Integrated Relaxation Pressure, that measures the lower esophageal sphincter relaxation; Distal Contractile Integral, that evaluates the contraction vigor of each wave; and, Distal Latency, that measures the peristalsis velocity from the beginning of the swallow to the epiphrenic ampulla.

Discussion/Conclusion: Clinical application of these new concepts are still under evaluation.
RETROGRADE INTUSSUSCEPTION AFTER GASTRIC BYPASS

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Background/Introduction: Intussusception is an extremely rare complication after gastric bypass and its pathogenesis is multifactorial. One of the reported factors is the intra-abdominal pressure increase as in the final stages of pregnancy.

Objectives: This study aims to report a case of retrograde intussusception after gastric bypass and shows the importance of suspicion, early diagnosis and treatment.

Methods: This is a cross-sectional, descriptive, narrative type of case, using as methodology: the patient’s interview, medical records and laboratory test analysis.

Results: The case describes a 34 years old female patient, HBP carrier and class III obese (BMI 41.52 Kg/m2), which was submitted to laparoscopy gastric bypass four years ago. She presented good postoperative evolution and proper weight loss (current BMI 27.68 Kg/m2). Two years after surgery, during second trimester pregnancy, she developed a small bowel intussusception obstruction. She was submitted to an exploratory laparotomy and bowel resection with segmental side-to-side anastomosis was also accomplished. Four years postoperative since the gastric bypass, once more a small bowel retrograde intussusception obstruction was discovered, running through the previous side to side anastomosis. This led to small bowel necrosis and she was quickly diagnosed by abdominal CT and submitted to laparotomy with new segmental enterectomy (Roux-en-Y adjacent and downstream) and alimentary tract reconstruction with side-to-side anastomosis.

Discussion/Conclusion: It concludes that despite the fact of intussusception being a rare complication after gastric bypass, it can happen again. Early diagnosis and surgical treatment are performed quickly when getting the best results for the patient when suspected.
INSERTIONAL TENDINOPATHY TREATMENT IN COMPARISON TO SHOCK WAVE THERAPY, ASSOCIATED TO ECCENTRIC STRENGTHENING VERSUS ISOLATED ECCENTRIC STRENGTHENING: RANDOMIZED DOUBLE BLIND CLINICAL TEST

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Background/Introduction: There is no consensus regarding the treatment of insertional tendinopathies. The good results of the eccentric training in the management of the non-insertional Achilles tendinopathy were not reproducible in insertional disease, with a rate of improvement between 32 and 67% of the patients, according to the present studies (Irwin 2010, Magnan et al 2014, Kearney et al 2010). Thus, combination of exercises and shock wave therapy may be an option in case of failure of the conservative treatment.

Objectives: Evaluate the effectiveness of shock wave therapy allied to the eccentric strengthening protocol in comparison to the eccentric strengthening associated to placebo, considering the function by the VISA-A (Victorian Institute of Sports Assessment-Achilles) score.

Methods: Nine-three patients with insertional Aquiles tendinopathy, referred from primary or secondary health care services, will be assessed and enrolled in this study. They will be divided in 2 groups (randomized by sequentially numbered envelopes, which will be administered serially to participants), one containing the combination of shock wave and eccentric exercises, as treatment, and the other comprehending the exercises and the placebo treatment (an apparatus placed in the therapeutic head). The assessments will occur in 2, 4, 6, 12 and 24 weeks. Patients will be evaluated primarily by the Victorian Institute of Sport Assessment-Achilles questionnaire (VISA-A) and secondarily by the Visual Analogue Scale (VAS), Algometry, the American Orthopedic Foot and Ankle Society (AOFAS) scale and the 12 Item Short Form
Health Survey (SF-12). We will use Comparison of Two Proportions via relative frequency analysis, the Pearson Correlation the Chi-Square test and the ANOVA for statistical analyses.

**Results:** After collecting information, we will define the results with descriptive analysis for the quantitative variables (interval of 95% of reliability for the average/mean). The qualitative variables will require the Comparison of Two Proportions via relative frequency analysis. The Pearson Correlation will be used to check the relation between quantitative variables, and the Chi-Square test will be utilized in relation to qualitative variables. The ANOVA test will be used to compare the two techniques based on their average.

The study is registered in the Clinical Trials database (protocol number: 8094833648737701) and approved by the University Ethics Committee (number: 1373481).

The project was also submitted to government funding [CNPq (Conselho Nacional de Pesquisa – National Research Council under the protocol number 8094833648737701 and FAPESP (Fundação de Amparo à Pesquisa do Estado de São Paulo – São Paulo’s Research Foundation).

**Discussion/Conclusion:** Insertional Achilles tendinopathy is a common disease related to a poor biological body response due to micro lesions suffered by the tendon (degenerative changes and low inflammatory reaction).

Over the last years, non-surgical approach didn’t produce consistent results, fact that contributed to the increase in the number of surgeries. Therefore, several new alternatives have been considered. Evidence indicates that shock wave therapy may be a viable option, stimulating soft tissue healing in behalf of angiogenesis enhancing and diffusion of cytokine molecules.

Even with encouraging results, shock wave treatment was not definitive. In a recent study, adjuvant administration of the Alfredson protocol proved to be a trustworthy combination in the non-insertional tendinopathy. The composition of shock wave and tendon´s eccentric strengthening can be a good way to handle the disease, with the benefit of avoiding the complications and high costs associated with the surgical treatment.
TETRALOGY OF FALLOT TREATMENT IN AN 1 YEAR AND FIVE MONTHS PATIENT DIAGNOSED WITH EDWARDS'S SYNDROME

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Background/Introduction: It is known that chromosomal abnormalities are frequent, being present in about one in every ten patients with congenital heart disease. Among the karyotype alterations in these patients, we can mention the trisomy 18 (Edwards syndrome). These patients often have associated extra-cardiac malformations, with a higher risk of morbidity and mortality, which makes heart surgery even more risky. Edwards's Syndrome (CATHEDRAL), is characterized by a trissomia of the chromosome 18, it is not a much frequent entity, with a 1/8,000 incidence in live births. There is a bigger incidence in the feminine sex. Nearly 95 % of the embryos carriers of this trissomia evolve to spontaneous abortion. Of those who reach birth, 97% die in the first week of life. In addition to the neurological findings, there may occur congenital heart defects, such as tetralogy of Fallot.

Objectives: This case report has aimed to demonstrate significant clinical information and tests, necessary to diagnose Edwards Syndrome. It also aimed to determine the validity of the treatment chosen for this patient.

Methods: Clinical and surgical data were collected in the Emergency Hospital of Pernambuco (PROCAPE) ward. After gathering these informations, we carried out a literature review in order to better understand the pathology and discuss about the importance of the topic. From this point we were able to write this case report.

Results: Female patient, one year and five months, weighing 6.3 kg, presented a hypertonia of the four members episode and sursumversion. Genitor reports that before the hypertonic episode, the patient showed a weak cry noise with a longer duration compared to the previous episodes.
The neurologic exam showed preserved alert signs, and good eye contact. Also presented syndromic facies (increased anteroposterior diameter of the skull with prominent occipital, oblique eye fissures, low aricular implementation and micrognathia). Patient had good general condition, paleness (1+ / 4+), cyanotic (1+ / 4+), and systolic murmur (3+ / 6+) in left sternal border. She was then referred to the Pediatric Intensive Care Unit. The admission electrocardiogram showed sinus rhythm, axis deviation to the right, and right ventricular overload. The chest X-ray showed cardiomegaly, by increase of right ventricular cavity, and reduced pulmonary vasculature. Transthoracic echocardiogram showed right ventricular hypertrophy, ventricular septal defect, patent foramen ovale and aorta overriding 40% of the interventricular. After extensive debate among many doctors, it was decided on the surgical treatment for tetralogy. After surgery the patient developed clinically well and was discharged after 30 days of postoperative follow-up.

**Discussion/Conclusion:** Despite all the progress made in recent decades in the field of cytogenetic, the karyotype remains an essential tool in order to evaluate patients with congenital heart disease. The detailed dysmorphological physical examination is of great importance to indicate the need of a karyotype. Edwards Syndrome is associated with a very poor prognosis, and the literature discusses whether patients might actually benefit from heart surgery are associated with a very poor prognosis, and the literature discusses whether patients might actually benefit from heart surgery. Since the patient had completed her first year of life and overcome the 90% of patients who die in the first 12 months, after long debates between several doctors, surgical treatment was choosen. After surgery the patient developed clinically well and was discharged after 30 days of postoperative follow-up. This case shows, surgical Intervention with full correction of Tetralogy of Fallot may be a good option for patients who overcome the first year of life. Therefore, all this information is critical for the patient's proper management and risk/prognosis assessment.
ANGIOPLASTY AND STENT IMPLANTATION FOR AORTIC COARCTATION TREATMENT ASSOCIATED WITH BICUSPID AORTIC VALVE IN ADULT PACIENT.

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Mentor name: Dário Celestino Sobral Filho

Background/Introduction: The coarctation of aorta (CoA) is one of the most common cardiovascular malformations among left ventricular obstruction anomalies. The obstructive change is located at the junction of the aortic arch and the descending aorta, involving a greater or lesser extention of the aortic arch. The aortic coarctation may present itself as an isolated injury or associated with other abnormalities such as bicuspid aortic valve. Clinical recognition is characterized by the absence or reduction in the amplitude of arterial pulses in the lower limbs, associated with the presence of large pulse and blood pressure in the upper limbs. In the present study we report a case of aortic coarctation which was treated with an adjunctive therapy with balloon angioplasty, and stent implantation.

Objectives: This case report has aimed to demonstrate significant clinical information and tests, necessary to diagnose Aortic Coarctation as well as valve abnormalities. It also aimed to consider endovascular therapy as an alternative to surgical treatment.

Methods: Clinical and surgical data were collected in the Emergency Hospital of Pernambuco (PROCAPE) ward. After gathering these informations, we carried out a literature review in order to better understand the pathology and discuss about the importance of the topic. From this point we were able to write the case report.

Results: Female patient, 49 years old, born in Recife/ PE. The patient complains of dyspnea, chest pain on effort, and several episodes of dizziness and syncope. She reported that the symptoms started 8 years ago when she underwent invasive and non invasive cardiovascular
evaluation. On the physical examination, the patient presented good general condition, eupneic, and peripheral pulse with a slight decrease in amplitude. Arterial pressure was 120x70 mm Hg. Examination revealed precordium normal sounds and systolic murmurs in the aortic focus (4 + / 6 +). Respiratory auscultation was normal. Echocardiography, chest X-ray and exercise testing were performed. The patient was submitted to an aortic angioplasty followed by stent implantation at the coarctation level.

**Discussion/Conclusion:** Generally, the indication for intervention in CoA is a more than 50% decrease in lumen diameter at the narrowed site and/or a pressure gradient of more than 20 mmHg at rest. Although CoA is usually detected in children, it may recur or be diagnosed in adolescents and adults. Surgical treatment of CoA was first described in 1945, and till today, remains the treatment of choice. However, recently, less invasive methods such as balloon dilation and/or stent implantation have been used to treat CoA in elderly patients. The use of stents as endoprosthesis is gaining acceptance, especially in adult patients. Among the benefits brought by this type of procedure we can mention: reduced risk of aortic tears, and results in a lower residual gradient, improves luminal diameter, sustaining the procedure’s haemodynamic benefit, though hypertension may persist in some patients. It also prevents restenosis and minimizes the risk of acute aortic rupture or aneurysm formation caused by vascular wall injury. Even though CoA stenting is effective, it is a technically challenging procedure, and local data on the approach is needed.
PLASTIC SURGEON IN FRONT OF MEDICAL ETHICS: A LITERATURE REVIEWS

Author name: PAIVA, J. V. F.

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Mentor name: SANTOS, M. F. O.

Background/Introduction: Bioethics, as it was defined by Van Resselaer Potter, is the science that combines humility, responsability and a interdisciplinary and intercultural knowledge, fighting for dignity and human rights. Therefore having a bioethical behaviour and acting according to its principles (autonomy, beneficence, non-maleficence and justice) is essential for all the health professionals, specially for plastic surgeons, since their speciality envolves the self esteem and several spheres of the patient life.

Objectives: Plastic Surgery has grown in the modern society, also has changed because of the new technologies, and reached a point where is required create a specifically behavior padronization to this speciality. Thereby this article aims to construct a contribution to the bioethical attitude in the plastic surgery practice, so that helps current and future surgeons to act judiciously, and to put into practice the concepts discussed here, making the medical practice, although modern, humane and ethical.

Methods: Looking foward to accomplish the purpose of this paper, it was made a literature review searching for the therm: "plastic surgery ethics" and "ética na cirurgia plástica", in the data base of Scielo and Pubmed, the articles were selectioned according to paramethers of inclusion, which were: language (portuguese or english), year of publication (beetwen 2005 and 2015), also, were excluded from this review the papers that did not had the complete text in the data base that had been searched.

Results: During the research were found 10 articles that matched the methodology of this literature review, and just one of those was wroten in Portuguese, wich shows by itself the little
amount of articles about this theme in a big timelapse (10 years). Autonomy is the most mentioned bioethical principle in the literature, along with pictures publicity, while the others principles are neglected. To ensure autonomy, the plastic surgeon, must give as many information as possible to the patient, and not create a misreported vision. Also, the literature shows that the quality of the bond created in the pre and post operative is highly important, and mentions that contracts are convinient for both, the surgeon and the patient. The articles also emphasize the importance of a psychological evaluation of the patient before the surgery, and highlights that after the surgery, the professional should not expose the patient and the best publicity for is a happy patient.

**Discussion/Conclusion:** Based on the collected information and its analysis, it can be inferred that it is extremely important the known by part of the plastic surgeons about the Medical Ethics Code, that governs their professional conduct, valuing always the non-maleficence and beneficence to the patient. Also, there is a need for more production on the topic addressed here, and its dissemination in order to make accessible to surgeons ethical knowledge, giving evidence to aspects that are less addressed in the literature, such as beneficence and justice. The plastic surgeon, as well as all other doctors are responsible for their actions and the consequences thereof. To combat the growing number of lawsuits against these experts, it is very important that the plastic surgeon always keep in mind their duties and obligations, avoiding legal problems.
TRANSSPHENOIDENTAL SURGICAL APPROACH TO PITUITARY MACROADENOMA: A CASE REPORT

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Background/Introduction: Most clinically nonfunctioning pituitary adenomas (NFPA) are of gonadotroph cell origin, however seldom express with clinical sings or symptoms associated to gonadotropin excess. Headaches, visual field compromise and low visual acuity, are the most common presenting of NFPA, and are all prompted by pressure of the tumor near structures. Therefore, the main treatment goal is the tissue decompression in NFPA, being efficiently achieved in most cases through transsphenoidal excision of the tumor.

Objectives: This study aims to the realization of a case report about a patient with the diagnosis of a pituitary macroadenoma that resulting in a compression of the optic chiasma, and compares the results with articles found in literature reveal. This study expects to show the details of the tests carried out and as well as the surgical management details adopted as a method of treatment to this patient, discussing about it with literature founds.

Methods: Case report of a patient with pituitary macroadenoma, based in medical reports and in the doctor's perspective about the patient clinics and surgery treatment. Looking foward to accomplish the purpose of this paper, it was made a literature review searching for the term: "pituitary macroadenoma", in the data base of Scielo and Pubmed, the articles were selectioned according to paramethers of inclusion, which were: language (portuguese or english), year of publication (between 2011 and 2016), also, were excluded from this review the papers that did not had the complete text in the data base that had been searched.

Results: F.N.C., Male, pard, 37 years, complaining of Hemianopsia in the right and left superior quarter of both eyes for 6 months. Magnetic Resonance of the skull and "sella turcica" (turkish seat), show a presence of expansive lesion with the aspect of pituitary macroadenoma wich
compress the optical quiasma. The patient was operated in September 2014, using endonasal access to the anterior skull bases, showing great evolution. In March 2016, occurred a new relapse of the lesion, with the same clinical symptoms that were shown before. In that occasion succeed a surgical reintervention with excision and debulking of the tumor. The patient now recovers well, and presents no sequels.

**Discussion/Conclusion:** A transsphenoidal approach is generally preferred over transcranial surgery for excision of most pituitary adenomas, as it causes less injury to the gland and allows faster recovery of its endocrinological function and visual impairment. The debulking technique was used with a transsphenoidal approach for this case because they are considered the most effective surgical treatment for full removal of nonfunctioning pituitary macroadenoma, and indicated for patients with visual field defects due to the compression of the optic chiasm. The treatment goal is the complete cure, but regular careful observation is recommended after surgery, with hormonal replacement when needed. Approximately 50% of patients with this type of tumor and visual field defects, develops atrophy of the optic nerve. The patient analysed did not suffer any compromise of the ophthalmologic function but many studies emphasizes that early diagnosis of pituitary adenoma leads to a better ophthalmologic recovery prognosis.
RUPTURED PSEUDOANEURYSM OF ASCENDING AORTA: CASE REPORT

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Mentor name: DURAES, A.R

Background/Introduction: Ascending aorta pseudoaneurysms are a rare event, associated to high morbidity and mortality rates. This case report describes the admission, surgery and evolution of a patient who has looked for medical support due to malaise and later syncope, which, added to clinical evaluation, brought on giant ascending aorta aneurysm as a suspected diagnosis. During the surgery, it was noticed that it actually was an aortic pseudoaneurysm, an event that is poorly described in medical literature so far.

Objectives: The objective of this work is to report the case of an ascending aorta pseudoaneurysm, which at first featured clinical characteristics of an aneurysm, suspect that was enhanced by the results of computed tomography (CT) and magnetic resonance imaging (MRI) and discarded during surgery.

Methods: The surgical and clinical data were obtained from patient records and contextualized by the resident doctor who made his accompaniment. The theoretical basis was made through a search for articles that were published from 2000 to 2016, on research platforms Scielo and LILACS, using the following keywords: pseudoaneurysm, fake aneurysm and thoracic aorta. Eight articles were chosen and one cardiology book was used for the construction of this report.

Results: 61-years-old patient, male, inpatient to evaluate unspecific malaise and syncope episode. Refers to smoke and drink. Under examination, the patient is noticed as emaciate and presents a pulsatile mass in cervical region. Chest CT compatible with ascending aorta aneurysm, possibly over 10 centimeters. During a posterior evaluation, transthoracic echocardiogram and cervical angiotomography corroborated the previous suspects; the doctors initiated a beta-antagonists therapy and indicated an emergencial cirurgical intervention. In surgery, evidenced wide ruptured aneurysm contained in a pseudoaneurysm in ascending aorta.
and aortic arch, and numerous thrombus in brachiocephalic artery. The patient was admitted at Post Cirurgical Unity, hemodynamically stable, under mechanical ventilation; present diruresis and a few productive drains. 24 hours later, the patient’s evolution showed a relevant hemodynamic worsening, envolving to death on the 14th POD, after new encephalic death protocol closure.

**Discussion/Conclusion:** Pseudoaneurysms are injuries in which there is blinding through the aortic wall resulting in periaortic hematoma in continuity with the lumen of the artery. This rare and potentially fatal condition occurs in about 1% of aortic surgeries, but it can be secondary to accidental trauma, with incidence of 3-4%. The possible symptoms, such as pain in the neck and jaw are due to compression of adjacent organs and there may be acute complications such as rupture or aneurysm dissection. However, most patients are asymptomatic, and the diagnosis is usually made through CT or MRI performed by other reason. The confluence of multiple atypical events justify the importance of this report. The patient had unknown history of mediastinal infection, surgery, heart attack or chest trauma, and rapid evolution of the framework, since it was asymptomatic until four days before the surgery, which was not expected, especially if the size of the pseudoaneurysm is taken into consideration.
SCHWANOMA OF THE MANDIBULAR DIVISION OF THE TRIGEMINAL NERVE: A CASE REPORT

Author name: Jacques, J

All co-authors names: Gonçalves A.L.M; Zanini, F. D.; Jacques, J;

Mentor name: Fabio Duro Zanini

Background/Introduction: Schwannomas are benign sheath tumors that occur in the Schwann cells that surround the nerves. They can be found in any part of the human body. Any segment of the trigeminal nerve may be tackled. They are rare tumors and comprehend 0,07 to 0,36% of all the intracranial tumors and 0,8 to 8% of the intracranial schwannomas

Objectives: The aim of this report is to present a not so common intracranial tumor.

Methods: Clinical report of a 51-year-old female atypical facial pain for 6 days. Further clinical and laboratorial investigation were made to obtain the diagnosis.

Results: 51-year-old female with a 6-year-history of unspecific right hemifacial pain. Evolved with right hemifacial swelling, right ear buzzing, hypoacusia, vomiting and progressive pain worsening. No additional alterations in the neurological exam. Audiometry and immittance testing were also normal. In further diagnostic investigation the magnetic resonance imaging (MRI) exam showed an intracranial expansive formation located into the right infratemporal and pterygopalatine fossae invading the lateral pterygopalatine muscle. Tumor was altering the right esfenoidal sinus, reaching the middle and inferior nasal turbinates and the nasal septum. The size of the tumor was 4,78x3,66x3,85 cm and it did not invade the wall of the intern carotid artery. The patient was submitted to an endoscopic surgery. Transmaxilar access was used one and the procedure was sucessefully realized. Postoperative period did not have any complications. After 4 months she still had paresthesia of the right maxillary area. The pathology exam showed a suggestive schwannoma tissue with cystic component.
Discussion/Conclusion: Tumors located in the infratemporal and pterygopalatine fossae generally only have symptoms if the size increase – atypical facial pain and hypoesthesia are the main clinical manifestations frequently described. The time for diagnostic varies between 4 months and 15 years. Theses type of tumor affect mostly young adults with similar distribution among male and female. Up to 70% of the patients show disfunction of the trigeminal nerve – hypoesthesia is the mostly frequent one – and 51% present trigeminal symptoms - pain being the most frequent one. The treatment is always surgery.
THE USEFULNESS OF STEREO-ELECTROENCEPHALOGRAPHY (SEEG) IN THE SURGICAL MANAGEMENT OF FOCAL EPILEPSY ASSOCIATED WITH “HIDDEN” TEMPORAL POLE ENCEPHALOCELE: A CASE REPORT AND LITERATURE REVIEW.

Author name: Jacques, J

All co-authors names: Zanini, F. D.; Jacques, J; Gonçalves A.L.M

Mentor name: Fabio Duro Zanini

Background/Introduction: Approximately 500,000 children and 2.3 million adults are currently affected by epilepsy in the US. About 25 to 30 percent present with medically refractory epilepsy. Limitations to precisely delineate the epileptogenic zone are the main reasons for the maintenance of seizures and deficits after surgical resection.

Objectives: Herein, the authors report a case of 18-year-old woman with partial complex seizures compatible with temporal epilepsy by semiology. Due to medical refractoriness, she was referred to pre-surgical evaluation. Initially, MRI showed no significant structural abnormality and superficial scalp-EEG demonstrated epileptiform activity in the frontal-temporal areas.

Methods: Given the lack of clear MRI abnormalities and the potential involvement of dominant mesial temporal structures by seizure semiology and non-invasive data, extra-operative invasive evaluation using SEEG methodology was indicated. Invasive monitoring demonstrated seizure onset in the left temporal pole with early spread to ipsilateral amygdala. Surgical treatment resulted in resection of the temporal pole and amygdala, with preservation of the remaining mesial temporal lobe structures. Intraoperatively, it was observed multiple dural defects in the anterior middle temporal fossa with invagination of adjacent temporal pole parenchyma.

Results: Patient remains seizure-free since surgery (12 months follow-up period) with preservation of neuropsychological functions.
Discussion/Conclusion: Although temporal pole resection plus amygdalohippocampectomy has been described as an adequate surgical approach in temporal encephalocele cases, we demonstrated the usefulness of the SEEG methodology in minimizing the volume of temporal lobe resection without compromising seizure and neuropsychological outcomes. The optimal results in this case and the review of the literature may suggest that in medically refractory epilepsies caused by temporal pole encephaloceles, preservation of the temporal lobe mesial structures should be attempted.
THE USEFULNESS OF STEREO-ELECTROENCEPHALOGRAPHY (SEEG) IN THE SURGICAL MANAGEMENT OF FOCAL EPILEPSY ASSOCIATED WITH “HIDDEN” TEMPORAL POLE ENCEPHALOCELE: A CASE REPORT AND LITERATURE REVIEW.

Author name: Souza, JPSS

All co-authors names: Gonzalez-Martinez, J

Mentor name: Gonzalez-Martinez, J

Background/Introduction: Approximately 500,000 children and 2.3 million adults are currently affected by epilepsy in the US. About 25 to 30 percent present with medically refractory epilepsy. Limitations to precisely delineate the epileptogenic zone are the main reasons for the maintenance of seizures and deficits after surgical resection.

Case Presentation: Herein, the authors report a case of 18-year-old woman with partial complex seizures compatible with temporal epilepsy by semiology. Due to medical refractoriness, she was referred to pre-surgical evaluation. Initially, MRI showed no significant structural abnormality and superficial scalp-EEG demonstrated epileptiform activity in the frontal-temporal areas.

Diagnostic and Therapeutic Focus and Assessment: Given the lack of clear MRI abnormalities and the potential involvement of dominant mesial temporal structures by seizure semiology and non-invasive data, extra-operative invasive evaluation using SEEG methodology was indicated. Invasive monitoring demonstrated seizure onset in the left temporal pole with early spread to ipsilateral amygdala. Surgical treatment resulted in resection of the temporal pole and amygdala, with preservation of the remaining mesial temporal lobe structures. Intraoperatively, it was observed multiple dural defects in the anterior middle temporal fossa with invagination of adjacent temporal pole parenchyma.

Follow-Up and Outcomes: Patient remains seizure-free since surgery (12 months follow-up period) with preservation of neuropsychological functions.
Discussion/Conclusion: Although temporal pole resection plus amygdalohippocampectomy has been described as an adequate surgical approach in temporal encephalocele cases, we demonstrated the usefulness of the SEEG methodology in minimizing the volume of temporal lobe resection without compromising seizure and neuropsychological outcomes. The optimal results in this case and the review of the literature may suggest that in medically refractory epilepsies caused by temporal pole encephaloceles, preservation of the temporal lobe mesial structures should be attempted.
LEFT VENTRICLE TUMOR IN YOUNG ADULT PATIENT: AN UNUSUAL DIAGNOSIS

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Mentor name: Dário Celestino Sobral Filho

Background/Introduction: Primary cardiac and pericardial tumors are uncommon, with a necropsy series an incidence ranging from 0.001% to 0.2%, and have benign histological features in 75% of cases. Myxomas account for about 50% of these neoplasias, being sporadic and solitary in most cases and are located preferably in the left atrial cavity. In addition to the cardiovascular impairment, patients with these tumors may attend non-specific manifestations that hinder or confuse the diagnosis of disease and, therefore, delay treatment, which consists of surgical removal. Embolic accidents have been reported frequently and can cause disability or even sudden death, hence the importance of early diagnosis and treatment of myxoma.

Objectives: This case report has aimed to demonstrate significant clinical information and tests, necessary to early diagnosis of myxoma. It also aimed to consider medical conducts in the presence of an unusual diagnosis for a favorable outcome for the patient.

Methods: Clinical and surgical data were collected in the Emergency Hospital of Pernambuco (PROCAPE) ward. After gathering these informations, we carried out a literature review in order to better understand the pathology and discuss about the importance of the topic. From this point we were able to write this case report.

Results: A female patient, 24 years old, was referred for Echocardiographic evaluation. She complained of atypical chest pain, palpitations and shortness of breath for about six months. It performs electrocardiography, anteroposterior radiograph of the chest and exercise stress test, which were all entirely normal. Negative personal history for diabetes mellitus, systemic arterial hypertension, smoking and alcohol consumption. On general physical examination and
cardiovascular examination, no significant changes. She underwent an Transthoracic echocardiogram (TTE) that showed intracardiac mass measuring 1.0 x 0.9 cm attached to the posteromedial wall. This was followed Transesophageal Echocardiography (TEE) which confirmed the findings of the ETT. Complementing the research, it conducted cardiac magnetic cineressonância and cardiovascular magnetic resonance angiography whose diagnostic impression was consistent with papillary fibroelastoma the left ventricle. The patient underwent surgical approach revealed a mass at the base of the posteromedial papillary muscle calcified aspect does not compromise the structure of the muscle or the subvalvular apparatus. The surgical specimen was sent for histopathological study showing findings suggestive of myxoma.

**Discussion/Conclusion:** The myxoma is the most common representative of cancers that affect the heart. Although benign, this tumor can lead to adverse developments and therefore the diagnostic precocity and surgical removal improve arguably the prognosis and preventing complications and death. The use of echocardiography, as in this case, has a high positivity index, making diagnosis.
ISCHEMIC CEREBRAL VASCULAR ACCIDENT IN ELDERLY PATIENTS WITH PATENT FORAMEN OVALE

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Background/Introduction: Patent Foramen Ovale (PFO) associated with interatrial septal aneurysm has been associated with paradoxical embolic phenomena in shunt reversal periods increases the risk of cerebrovascular accident (CVA). The present study reports the case of a patient that presented a CVA after an episode of venous thromboembolism, in which echocardiographic study revealed the presence of PFO with interatrial septal aneurysm.

Objectives: This case report has aimed to demonstrate significant clinical information and tests, necessary to diagnose Patent Foramen Ovale as well as interatrial septal aneurysm. It also aims to consider the association between these disorders with each other to achieve faster diagnosis and more effective treatment.

Methods: Clinical and surgical data were collected in the Emergency Hospital of Pernambuco (PROCAPE) ward. After gathering these informations, we carried out a literature review in order to better understand the pathology and discuss about the importance of the topic. From this point we were able to write this case report.

Results: A female patient, 64 years old, white, widow, born in Recife- PE. It reports that for 13 years had difficulties in pronouncing words and loss of memory for recent events. In neurology ambulatory was investigated with computed tomography and nuclear magnetic resonance, the presence of cerebral ischemia is detected and referred for cardiological evaluation. Personal history: cardiac catheterization in 2002, Hypertension (stage I), inveterate smoker, performed hysterectomy and reported on varicose veins in the lower limbs. Physical examination was in good condition, normal respiration, pulse normal, regular heart rate, HR = 100 bpm, AP =
130x80 mm Hg, and auscultation systolic murmur (1+/6+) in accessory aortic focus. Neurological examination showed no motor deficits. Patient held Transthoracic echocardiogram, transesophageal (suggestive of patent foramen ovale, atrial septal aneurysm and small shunt between the right and left atria). It was also held Doppler carotid and vertebral arteries, and arterial and venous Doppler in the lower limbs. It is currently asymptomatic and makes use of antiplatelet medications, Aspirin® and Clopidogrel®.

**Discussion/Conclusion:** Atrial septal aneurysm, as in this case, is found in association with atrial septal defects, and their presence should be seen as a predictor of atrial septal defect. The presence of PFO in patients with atrial septal aneurysm ranges from 50% to 80%.
TOTAL PARATHYROIDECTOMY WITH AUTOIMPLANTATION IN THE TREATMENT OF HYPERPARATHYROIDISM PRIMARY FOR PARATHYROID HYPERPLASIA

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Mentor name: Rios, R. A.

Background/Introduction: Primary hyperparathyroidism is a common cause of bone metabolism disorder, involving increased parathyroid hormone, and its main etiologies adenoma, hyperplasia and, more rarely, by parathyroid carcinoma¹. About 80% of cases of Primary hyperparathyroidism (PHPT) has the etiology of parathyroid adenoma². The hyperplasia of the parathyroid glands is observed in approximately 15% of patients with PHPT and generally, there is involvement of the four glands; it is a multifactorial etiology, not the clinical aspects that distinguish one disease from multiple diseases².

Objectives: The objective to this study is report a case of primary hyperparathyroidism caused by parathyroid hyperplasia with focus on diagnosis and surgical early treatment.

Methods: Descriptive study consisting of a case report and literature review in the Virtual Health Library databases. Original scientific articles were obtained in the SciELO and PubMed. The time limit was 2010 and the chosen languages are Portuguese and English.

Results: Male patient, 79 yo, complaining of constipation, progressive changes in behavior, confusion and drowsiness. The patient was in good general condition, emaciated, with topical thyroid, increased bilaterally and normal consistency. Showed an increase of corrected serum calcium (12.0mg/dL) and PTH (742.4pg/mL). Cervical USG and CT of the neck and chest showed increased volume of higher parathyroid glands. Scintigraphy of the parathyroid with SESTAMIBI 99 Tc showed no persistent pickup spots. Given the PHPT hypothesis by parathyroid hyperplasia, indicated to surgical treatment. There was total parathyroidectomy with reimplantation of a fragment of the lower right parathyroid in the sternocleidomastoid
muscle. The histopathological analysis was inconclusive and specimens were sent to immunohistochemistry for diagnostic definition, which revealed compatibility with parathyroid hyperplasia and absence of malignancy. The postoperative period was uneventful, with PTH and serum calcium loss.

**Discussion/Conclusion:** The case report shows a patient with asymptomatic PHPT, characterized by the absence of bone or renal involvement, but presenting specific symptoms such as depression, memory disorders, constipation, with calcium and PTH increased. Cervical USG and CT of the neck and chest compatible with parathyroid hyperplasia. However, a definitive diagnosis can only be achieved through a combination of intraoperative recognition and final histopathology of the resected tumor. The total parathyroidectomy with autoimplantation has been defaulted due to the high rate of hypoparathyroidism result of total parathyroidectomy³. The autoimplantation of parathyroid tissue can be performed either on the forearm as in the pre-sternal region, depending on the surgeon's experience. In the case described, although it has been concluded that asymptomatic early surgical treatment prevented future clinical complications like renal, bone and reducing the costs of the following non-operated patient changes.
NEUROPROTECTION WITH METHYLENE BLUE IN HYDROCEPHALIC RATS

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All co-authors names: Romeiro, T.H.; Jardini, E.O.; Garcia, C.A.B.; Silva, S.C.; Lopes, L.S.

Mentor name: Lopes, L.S.

Background/Introduction: Hydrocephalus is a common neurological condition, characterized by the altered flow of cerebrospinal fluid, and is the cause of compression, ischemia and brain injury. Methylene blue (MB) has been studied because of its potential neuroprotective effects. However, until now MB had not yet been tested in hydrocephalus.

Objectives: This study aimed to evaluate the potential neuroprotective responses of MB in experimental hydrocephalus induced in Wistar rats.

Methods: This study was approved by the Ethics in Animal Experimentation Commission (CETEA-FMRP), protocol n° 040/2015. Hydrocephalus was induced into 7-day-old rats. Animals were divided into 4 groups: Control (C) (n=8); untreated hydrocephalic rats (H) (n=10); hydrocephalic rats treated with intraperitoneal injection of MB (HTI) (n=12); and hydrocephalic rats treated with subcutaneous injection of MB (HTS) (n=13). The daily weight and the eye-opening time of each animal were registered. Behavioral tests (water maze and open field) were performed and the rats were sacrificed 14 days after the hydrocephalus induction. The animal brains were processed for histological (hematoxylin-eosin and solochrome-cyanine) and immunohistochemical (GFAP and Ki-67) analyses.

Results: Animals treated with MB showed a greater weight gain than the untreated animals, with significant statistical difference from the 11th day (p<0.05). Treated groups also presented earlier eye opening (p <0.01) and achieved a better performance in the behavioral tests, which was more evident in the HTI group. However, histological and immunohistochemical analyses showed no differences between treated and untreated hydrocephalic groups.
Discussion/Conclusion: MB promoted a significant improvement in behavioral performance of hydrocephalic rats. However, no differences were observed in histology and immunohistochemistry. Thus, the mechanism by which MB promotes neuroprotection remains uncertain, although it is probably not based on the reduction of tissue damage or astrocytic reaction.
HAS THE PHYSICAL ACTIVITY LEVEL AN IMPACT ON THE HOSPITALIZATION OF PATIENTS UNDERGOING THORACIC SURGERY?

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Background/Introduction: Both sedentarism and obesity are responsible factors for not only numerous diseases but also hindering medical treatments. Regarding specifically surgical treatments, obesity and sedentarism relate to longer length of hospital stay and postoperative complications. Facing these risks, the identification of a physical profile from patients who will be submitted to surgical procedures can lead to important scientific knowledge, better therapeutic conduct and lower death rates. Developing such profile in the surgical thoracic area of Hospital São Paulo - Escola Paulista de Medicina (EPM) contribute to better comprehend the patients in question.

Objectives: The primary objective of the study is to evaluate in terms of physical activity level the profile of patients who underwent thoracic surgery at Hospital São Paulo. The secondary objective is to verify the association among these data with length of hospital stay periods.

Methods: Observational prospective study with consecutively candidates to thoracic surgery. In the research were included patients with minimum age of 18; alphabetized; aware of and in agreement with the free and clarified consent term; whose surgical procedure was required pleural drain. The exclusion criteria established were neurological and/or orthopedic limitations that would prevent the execution of physical activity or preclude proper questionnaire completion. Information was collected through two moments: preoperative and postoperative. The preoperative factsheet was composed by personal data (identification, habits, personal and familiar antecedents); level of physical activity questionnaire (Human Activity Profile – HAP); anthropometric measurements (body mass index, tricipital skinfold thickness and mid-upper arm circumference) and lab results (hemoglobin and hematocrit). The preoperative factsheet consists of the hospital discharge date as to determine the length of hospital stay (LOS).
Statistically, LOS, hemoglobin, hematocrit and age were analyzed as numerical variable and expressed in mean and standard deviations. The physical activity level and BMI were analyzed as categorical variable and expressed in frequency and percentage/proportion. Data distribution and Pearson correlation was analyzed among the following variables: physical activity level with anthropometric variables and physical activity level with length of hospital stay. SPSS version 22 was used and results were considered statistically significant if p<0.05.

**Results:** During the six months comprehending August/2015 to April/2016, 30 patients were evaluated, 16 (53%) women, mean age of 55.5 (8.3). In terms of nutritional aspects, participants presented mean BMI of 24.3 (1.8) kg/m², tricipital skinfold thickness of 14.4 (4.72) cm and mid-upper arm circumference of 26.4 (4.9) cm. Physical Activity level Questionnaire assessment indicate that 3 (10%) of the sample were classified as sedentary. Regarding lab results, hemoglobin and hematocrit values were distributed within the normal parameters. There was moderate positive correlation between BMI with tricipital skinfold thickness and with mid-upper arm circumference, r=64 and r=56 respectively. There was moderate negative correlation between physical activity level and length of post-operative hospital stay, r= -33.

**Discussion/Conclusion:** Findings show that patients who are physically actives and with lower BMI remain less time in Hospital. Despite strong suggestion, this result was not statistically significant, possibly due to the small sample size. Future studies with larger samples will certainly consolidate these associations.
CLINICALLY HANDLING PATIENTS WITH MACROSCOPIC HEMATURIA - DETAILLED STUDY OF THE UTILIZED MATERIALS AND EQUIPMENT

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Background/Introduction: The continuous bladder irrigation (CBI) is the main pillar for the clinical treatment of patients with macroscopic hematuria. Knowing the properties of the equipments used is extremely important so that the right choice of equipment is made, enabling an adequate infusion and drainage rate for every clinical situation. There is no study that objectively compares the different models of 3 way urinary catheters (UC), as well as the different situations that may interfere in their performance.

Objectives: Compare the infusion and drainage rate in the different models and sizes of UC, as well as the variables that can worsen or enhance their performance.

Methods: We used 3 models [Rusch Latex (X), Rusch Siliconada (Y), Coloplast (Z)] with 3 different sizes [20, 22 e 24 French (f)] of UC used in the institution. The infusion rate was analyzed in 4 different situations, regarding the height of the UC (0,90m and 0,65 m) and the height of the Saline support (SS) (1,98m and 1,80m). The drainage rate was analyzed in two different heights (0.90m and 0.65m). The rate was measured using a flowmetry device (Dynamed©). The measurements were done with an empty cuff, and also insufflating the cuff with 10ml, 20ml and 40ml of distilled water.

Results: The infusion rate was similar between the sizes in the models X and Z. The difference in height between the UC and the SS made a bigger impact in the infusion rate than the height itself. The volume injected in the cuff did not interfere in the rate. The Z model was superior in all of the sizes. The Z UC size 20 has a rate 45% higher than the X 24f UC and 56% higher than the Y 24f UC. Regarding drainage, the UC height did not alter the drainage rate. The rate
increases as the caliber increases in all of the models. The drainage of the Z 20f UC is similar to the X 24f UC and inferior than the Y 24f UC and the Y 22f UC.

**Discussion/Conclusion:** The UC model is the determining factor in the infusion and drainage rate. The size of the UC did not influence in the infusion rate. The bigger the caliber of the UC, the better is the drainage rate. The difference between the height of the UC and the SS is relevant for determining the infusion rate, but not for the drainage rate. The volume of the cuff did not interfere in the infusion rate, neither in the drainage rate. This is an important study, since it provides scientific support and clinical impressions frequently encountered in the clinical practice, and can help choose, in a more precise manner, the model and size of the urinary catheters.
TEÇÁ SYSTEM, A LOW-COST LOCAL VIDEO STREAMING SYSTEM FOR OPEN SURGERIES TRANSMISSION TO SMARTPHONES: A NOVEL APPROACH ON TEACHING SURGERY

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Background/Introduction: Surgery video-recording and video-streaming may be helpful, especially for future physicians and surgeons, as a technological and educational tool for improving medical teaching and learning. Devices, such as headlight cameras, can be used for that purpose, but they are generally expensive and demand a large financial investment. A few studies used some alternatives to headlight cameras, such as Google Glass and GoPro cameras, however those studies were often restricted to video-recording only, instead of allowing live video streaming of the procedure.

Objectives: The Teçá System (TS) was developed, designed and conceived as a low cost system, capable of streaming live footage from surgeries, locally, allowing medical students and residents, from Pará’s public universities, to watch the procedure on their own smartphones and tablets. The current study aimed to know how the system helped them with their learning and daily practices in surgery/medicine.

Methods: The study was developed as an extension project from Universidade Federal do Pará, which was an interdisciplinary activity involving FCT - UFPA, Laboratório de Cirurgia Experimental - Universidade do Estado do Pará and FSCMPA. The methodological procedure consisted in the live video streaming of gynaecological surgeries (Total Abdominal Hysterectomy and Oophorectomy) by the TS, through the surgeon’s point of view for 4 to 10 smartphones or tablets, one for each student or resident. The smartphones and tablets were able to connect to the local wireless network created by the TS through an access password and play the surgery’s camera videos on a web browser. The students and residents watched the surgery
on their smartphones for at least 30 minutes, and answered a questionnaire at the end, containing
the following question: How the system helped with improving your learning during your daily
practices in surgery/medicine?

**Results:** The TS costs, in average, US$ 133.50. A total of 19 students (n=19) have tried the TS
so far. Some students (n=7/19; 36.8%) answered that the TS provides a better visualization of
the steps of the procedure. A few others (n=5/19; 26.3%) suggested that the system allows a
better visualization of the anatomic details, whereas 5 (26.3%) answered that the system helps
to link theory to practice. A small number of students (n=2/19; 10.5%) suggested that the the
TS allows a greater contact with the surgical practice, while 2 (10.5%) agreed that it provides
experience in surgery, especially during the first years in the university. Another students
(n=2/19; 10.5%) stated that it accepts that a larger number of participants to follow the
procedure, which would be impossible with the traditional in loco surgery viewing. Only one
student (5.2%) referred that the TS motivates to study surgical topics and subjects.

**Discussion/Conclusion:** The Teçá System had a lower cost when compared to similar devices,
such as Google Glass and GoPro, emerging as an actual alternative to be applied in the
Universities. As the students suggested, it allowed a better visualization to the procedure steps
and anatomic details than the traditional teaching, providing a new experience in surgical
teaching, which can be beneficial to straighten the relation between the students and surgery.
The TS is going through detailed evaluations in order to find a better understanding about user
experience in relation to its use as an educational tool, in comparison to in loco surgery viewing,
and to its impact in motivating students to study surgery topics and subjects.
INITIAL EVALUATION OF PERIOPERATIVE CHEMOTHERAPY IN GASTRIC CANCER

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Mentor name: Rebolho, J.C.

Background/Introduction: Gastric cancer remains a common malignant neoplasia worldwide. Pathological stage of the disease is related to the prognosis. Localized gastric adenocarcinoma, limited to mucosa and submucosa, is best treated surgically, however not every carcinoma is resectable. Tumor recurrence after surgical treatment usually occurs locally as well as at distance, so there has been considerable efforts to improve and develop an effective neoadjuvant and adjuvant therapy to complete the approaches in curative surgery.

Objectives: The main objective of this study was to evaluate downstaging and resectability of primary gastric tumor as a response to perioperative chemotherapy in patients at an oncological hospital from Curitiba. Secondary objectives were to analyze epidemiological data of the sample, technical details of surgery combined with systemic therapies in gastric cancer and clinical characteristics implicated on the survival times of the patients undergoing combined-modality treatment in oncology.

Methods: Retrospective case series study at an oncological hospital from Curitiba, based on evaluation of physical and electronic records of the patients who have undergone surgery and perioperative chemotherapy in gastric cancer at the institution between January 2012 and July 2013. Data were collected in a Microsoft Excel spreadsheet, including gender, body mass index, age at treatment, Borrmann classification, TNM before surgery, neoadjuvant and adjuvant chemotherapy informations and pTNM. Results were analyzed with the computer program IBM SPSS Statistics version 20. Descriptive measures were estimated for quantitative and qualitative variables. Comparisons between groups defined by death outcome and qualitative variables were performed using Fisher exact test. For associations between clinical variables and survival
time, Log-rank test was used. The survival times were described by Kaplan-Meier method. P values <0.05 were considered statistically significant.

**Results:** The sample included 19 patients, 47.4% women and 53.6% men, median body mass index of 22.1 (SD±5) and age at treatment of 60.4 (SD±7.9). The tumors ranged from Bormann II to V (10.5% BII, 52.6% BIII, 26.3% BIV and 10.5% BV). Clinical stages I (5.3% A and B), II (15.8% A and 21.1% B), III (15.8% A and B) and IV (21.1%) were found. Neoadjuvant chemotherapy followed CF (52.6%), DCF (15.8%), FOLF (15.8%), FOLFOX (10.5%) protocols, with a mean of 3.8 cycles (SD±3.4). Pathological stages I (5.3% B), II (5.3% A and 36.8% B), III (5.3% A, 31.6% B and 5.3% C) and IV (10.5%) were observed. Adjuvant chemotherapy also followed CF (47.4%), DCF (5.3%), FOLF (31.6%), FOLFOX (5.3%) protocols, with a median of 3 cycles (SD±4.3). There were 52.6% cases of complications to chemotherapies and 26.3% surgical complications. Recurrences and deaths occurred in 26.3%. For qualitative variables, the number of deaths was significantly higher in older or equal to 60 years (p = 0.044 by Fisher). The median estimated survival was 26 months, by Kaplan-Meier method. There were differences between almost all variables and survival time, but only 60-year-old groups were close to statistical significance (p = 0.063 by Log-rank).

**Discussion/Conclusion:** Several advantages of neoadjuvant chemotherapy in gastric carcinomas are listed: tumor downstaging as opportunity to increase the probability of curative resection; greater efficacy in tumors BIV treatment; does not appear to exceed morbidity and mortality along treatment. On the other hand, adjuvant chemotherapy in these cases has been administered for potential eradication of micrometastasis. In researches, the application of post-operative chemotherapy has demonstrated limitations, comparing with pre-operative chemotherapy which is feasible in most patients, therefore the efficacy of perioperative treatment continues to be uncertain. However, perioperative regimen of epirubicin, cisplatin and 5-fluorouracil (ECF) shows greater overall and disease-free survival in patients with resectable gastric adenocarcinoma compared to surgery alone. Still, more recent studies about neoadjuvant and adjuvant therapies in gastric cancer are relevant for better selection of patients to be submitted to gastrectomy and for improving cure rates of this cancer.
MOLECULAR PROFILE AS RESPONSE FACTOR IN PATIENTS SUBMITTED TO NEOADJUVANT CHEMOTHERAPY FOR BREAST CANCER

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Mentor name: Simões, J.C.

Background/Introduction: Breast cancer is the most common neoplasia among women and the second most common around the world. Tumor size, lymph node involvement, histological type and demographic characteristics, such as age, are classic prognostic factors of the disease. Gene expression markers indicate a molecular profile of the neoplasia and the most used are estrogen receptor, progesterone receptor, HER-2 and Ki-67. The molecular profile can classify the breast cancer in subtypes Luminal A or B, HER-2 type and Triple negative, which are related to different outcomes in prognosis, progress and treatment of the patients. With the use of molecular markers, there is an early signal if the cancer will respond to systemic treatment, as chemotherapies, regardless the tumor size. Neoadjuvant chemotherapy in breast tumor has been integrated into surgery to reduce the risk of distant recurrence and improve surgical outcomes, including aesthetic results.

Objectives: The aim of this study was to delineate the epidemiological and molecular profile of patients undergoing neoadjuvant chemotherapy for breast cancer at an university hospital from Curitiba and to verify the influence of prognostic factors, especially Ki-67, on response in clinical treatment. Secondary objective was to correlate the molecular profile with complete pathological response rates, overall survival and disease-free interval of the sample.

Methods: Retrospective analytical study at an university hospital from Curitiba, based on review of physical records of the patients who have been submitted to neoadjuvant chemotherapy for breast cancer at the institution between June 2009 and June 2014. Patients’ records without required molecular markers for the study were excluded from the sample. Data were collected in a Microsoft Excel spreadsheet, including gender, age, TNM before surgery, neoadjuvant chemotherapy informations, pTNM and molecular profile details. Results were
analyzed with the computer program IBM SPSS Statistics version 20. Descriptive measures were estimated for quantitative and qualitative variables. For comparing two groups in relation to qualitative variables, it was considered Student T test for independent samples or Mann-Whitney non-parametric test when appropriated. For associations between two qualitative variables, Fisher exact test or Chi-square test were used. For associations between clinical variables and survival time, Log-rank test was used. The survival times were described by Kaplan-Meier method. P values <0.05 were considered statistically significant.

Results: The sample was composed by 33 female patients, median age of 51 (SD±13). Clinical stages I (3%), II (3% A and 45.5% B) and III (21.2% A and 27.3% B) were observed. Histological types have included 87.9% invasive ductal carcinoma, 6.1% poorly differentiated and 6.1% lobular. Molecular classification revealed 65.6% Luminal A, 18.8% Luminal B, 9.4% Triple negative, 6.3% HER-2 type and 63.6% Ki-67 ≥25%. Clinical stages lower III demonstrated a significantly higher percentual of Ki-67≥25% (p=0.032). Neoadjuvant chemotherapy followed ACT (78.1%), CAF (12.5%) and other (9.3%) protocols, with a median of 6 months treatment (SD±4.9). Pathological stages 0 (24.2%), I (21.2%), II (12.1% A and 18.2% B) and III (15.2% A and 9.1% B) were seen. 45.5% of tumors presented a pathological response <35% and 27.3% between 35% and 75% or >75%. Clinical stages lower III also demonstrated a higher percentual of pathological response >75%, although without statistical significance (p=0.061). There were 21.2% cases of recurrences. HER-2 type and Triple negative did not show considerable responses, but were associated with Ki-67≥25% and no recurrences. Luminal A had a better disease-free survival than Luminal B, with statistical significance (p=0.044). 84.4% of disease-free interval occurred above 12 months (95%CI=71.8-97.0%) and 90.48% of them expressed Ki-67≥25%.

Discussion/Conclusion: Luminal breast cancer is the subtype with a better prognosis, with a good response to hormone therapy due to be hormone receptor positive, but has little response to chemotherapy. HER-2 type and Triple negative have a worse prognosis, one reacts to a particular monoclonal antibody while the other lacks specific treatment. Ki-67 is an emerging biomarker, which is a nuclear protein detected in cell cycle proliferation phase, with the possibility to be used for stratification of patients’ prognosis and selection of chemotherapy. The current challenge in relation to breast cancer is to develop tests based on genomic profile
for adopting molecular markers, mainly Ki-67, as response prediction factors to neoadjuvant chemotherapy.
THE EFFECT OF THE HYDROCORTISONE AND/OR HYPER-FLUID THERAPY ON THE MESENTERIC MICROCIRCULATION HEMODYNAMICS AT THE EARLY PHASE OF SEPSIS.

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Mentor name: Ivan Hong Jun Koh

Background: The effect of corticosteroid in septic patients demonstrated to be non-beneficial based on the CORTICUS trial. Considering that in the early phase of sepsis predominates the exacerbated inflammatory state, we thought to examine the immunosuppressive effect of hydrocortisone therapy at the very early phase of sepsis, with or without the hyper–fluid therapy.

Objective: Examine the role of corticoid, hyper-fluid and the combination therapy on mesenteric microcirculation in sepsis.

Methods: Wistar rats (200-300g), under general anesthesia, were submitted to sepsis (iv. 2 mL E. coli 10⁸CFU/mL (S8), DL60 in 26 hours). The intervention started 30 minutes after sepsis induction. The SBH group (n=3) was treated with basal-fluid reposition (iv. 8ml saline/kg/h). The SHH group (n=3) was treated with hyper-fluid therapy (i.v. 20ml saline/kg/during 1 h and maintained with basal fluid further). The SBH+Cort group (n=3) was treated similar to SBH, however treating with the Hydrocortisone (i.v. 100mg/kg, diluted in 0,5 ml Milli-Q water before the fluid therapy). The SHH+Cort group (n=3) was treated with Hydrocortisone and hyper-fluid therapy. The mesenteric microcirculation was monitored by Intravital microscopy during the first 3 hours of sepsis.

Results: In sepsis treated with basal-fluid (SBH), occured an important microcirculatory dysfunction, such as intense leucocyte adhesion and transmigration, microvessels’ congestion, thrombosis and focal hemorrhages. These alterations were lessened in all the other groups. The group treated with hydrocortisone and basal hydration (SBH+Cort), however, presented the
best flow, with lesser leucocyte adhesion and a rolling with a sliding pattern. Although, there was higher leucocyte transmigration as compared to the other therapies. The group treated with hyper-fluid therapy (SHH) showed less leucocyte adhesion than the control group, even though the rolling had a sticky characteristic. It also presented less thrombosis than the SBH+Cort group. Finally, the group treated with hydrocortisone and hyper-fluid therapy (SHH+Cort) showed mixed feature: a decreased adhesion (similar, but not as good as SBH+Cort) and decreased thrombosis and transmigration (similar to SHH).

**Discussion**: The better microcirculatory hemodynamics following hyper-fluid therapy seems to be dependent on the increased leucocyte speed which by higher hitting force dislocates adhered leucocytes, thus reducing the transmigration, endothelial activation and the barrier dysfunction. In addition, the hydrocortisone by reducing the expression of adhesion molecules might explain the sliding rolling in the SBH+Cort. Apparently, the flow continuity was more influenced by a low inflammation than hyper volemia effect since the SBH+Cort group presented the best flow. Nevertheless, the thrombosis seemed to be more dependent of volemia. Further studies are needed to better elucidate these findings.

**Conclusion**: The overall data demonstrated that hyper-fluid therapy and corticoid therapy, alone or combined, given in the very early phase of sepsis might bring potential benefits in the control of the exacerbated inflammatory response of sepsis.
RAPID HEALING EFFECT OF THE LDHS IN KIDNEY AND ABDOMINAL WALL INJURIES.

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Background/Introduction: In previous study, the layered double hydroxides (LDHs), composed by zinc-aluminum chloride ions, demonstrated the biocompatibility and biointegration properties in vivo assays in rat. In this study the aim of study was to examine the healing activity of LDH on different tissues.

Objectives: In this study the aim was to examine the healing activity of LDH on different tissues.

Methods: Wistar rats (200-300g), under general anesthesia, were submitted to hemi-abdominal transversal laparotomy and the left polar kidney edge was resected. Soon after, the reconstruction of wound edges were sutured (polyglycolic 5-0 sutures), with or without (Sham) LDH powder in the wound edges. The tissues samples were collected at 5th and 14th (n=6/period) postoperative days under general anesthesia and killed after. The samples were processed and stained with Hematoxylin & Eosin for the histological study.

Results: At 14th post-operative period, the kidney wound was not visible under laparotomy due to the peritoneal adhesions covering. At muscle wound, occurred a perfect restoration of the peritoneal mesothelium, without adhesions with the organs. At the histological examination, no sign of inflammatory reaction was seen around LDH fragments and the reconstructed kidney and muscle tissues showed a nice reconstruction of the matrix with fibroplasia, neovascularization and absence of cell edema or necrosis.
**Discussion/Conclusion:** The absence of inflammatory cells in the kidney and muscle tissue showed a biocompatibility property of LDHs in different tissues allied to their ability to proportion the proliferative effect of the extracellular matrix cells. These events might have relation to their pH 7.4 that neutralize the acidic environment produced during the tissue repair process, however, the exact mechanism of the LDH action needs to be elucidated. In addition, the permanence of LDH fragments up to 14 post-operative periods showed its potential use as an anionic drug carrier with delayed release property. Conclusion: LDH showed potentials to promote a rapid healing process even in different tissues.
Background/Introduction: Cor triatriatum is a rare congenital malformation, responsible for 0.1% of congenital heart diseases. It is characterized by the presence of a fibromuscular membrane, dividing the left atrium into two chambers: an accessory chamber, that receives the pulmonary veins, and a distal chamber, with the orifice of the left atrial appendage and the mitral valve. The two atrial chambers can be communicated through orifices of variable sizes, determining the patient’s symptoms and clinical evolution.

Objectives: This case report aims to describe a patient with clinical and echographic manifestations of a rare congenital heart disease, cor triatriatum, associated with atrial fibrillation and mitral regurgitation, surgically treated.

Methods: This case report was based on the patient’s medical records and documents, such as admission notes, discharge notes, operative report and tests results.

Results: Male patient, 56 years old, Caucasian, public servant, former smoker, with no cardiac history, presented with asthenia and dizziness. Electrocardiogram and 24-hour Holter indicated atrial fibrillation (AF). Electrical cardioversion (ECV) was performed, with reversion to sinus rhythm. Transthoracic echocardiography revealed membrane in the middle of the left atrium, compatible with cor triatriatum, associated with moderate mitral regurgitation and left atrial dilatation. It was opted for surgical treatment. During surgery, the posterior portion of the left atrium was separated from the rest of the atrium by a thin membrane, which had one orifice of 2 centimeters in diameter, and two other millimetric orifices. The membrane was completely resected. It was performed mitral valve plication. The left atrial appendage was occluded by
internal suture. After surgery, patient developed AF, without response to antiarrhythmic drugs or ECV. It was initiated clinical treatment for AF.

**Discussion/Conclusion:** Although rare, cor triatriatum can be successfully treated with surgery. Echocardiography has proven to be an adequate choice for the evaluation of patients with cor triatriatum. It allows diagnosis, surgical planning and search for associated heart defects, such as tetralogy of Fallot, anomalous pulmonary venous return, atrial septal defect, ventricular septal defect and persistent left superior vena cava. The symptoms of cor triatriatum depend upon the size of the opening in the membrane: patients with small fenestrations may develop symptoms associated with pulmonary hypertension, similar to those in severe mitral stenosis. On the other hand, patients with larger fenestrations, as in this case report, can remain asymptomatic for long periods. It is important to recognize this condition, as surgical approach in symptomatic patients is beneficial and results in satisfactory rates of early and long-term survival.
COMPARISON BETWEEN TWO METHODS OF EVALUATION OF LATE OUTCOMES IN CERVICOPLASTIES

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Mentor name: Daniel Nunes

Background/Introduction: The evaluation of the results of plastic surgery has been considered a difficult and controversial issue for years1,2. How can the outcome of a surgery be reliably classified as good, very good, or excellent? How can optimal results be determined for specific patients? These questions, frequent in plastic surgery clinics, lack definitive answers and stimulate heated debate among surgeons and patients.

Objectives: To compare two of the most widely used methods for assessing long-term results of cervical rejuvenation surgeries, presenting the advantages of each method, and discussing the alternatives available in the literature.

Methods: Twenty patients carriers of excessive sagging skin in the lower face and presented with very visible platysmal bands undergoing cervicoplasty were evaluated by independent plastic surgeons, in the first and fifth year postoperatively, using two well-documented methods. Method 1 uses purely subjective criteria. Evaluators scored the result obtained in the first and fifth year, as follows: worsening = 0 points; without change = 1 point; slight improvement = 2 points; moderate improvement = 3 points; significant improvement = 4 points; and maximum possible improvement = 5 points. The sum of the scores provided by the evaluators classified the outcome of each result as bad (0-9 points); weak (10-19 points); moderate (20-28 points); very good (29-36 points); and excellent (37-40 points).

While Method 2 uses objective criteria considered ideal in postoperative cervicoplasty. Photos of postoperative results at 1 year and 5 years had the following analysis criteria: well defined face-neck transition at the jaw line, presence of well-marked subhyoid depression, visible thyroid cartilage, identifiable anterior edge of the sternocleidomastoid muscle, cervical mentalis...
angle between 105 and 120 degrees, and no excess skin on submentonean region. Each item, considered ideal in the postoperative results of cervicoplasty, was scored by the plastic surgeons. The sum of the scores given by the evaluators stratified patient results as bad (0-15 points); weak (16-27 points); moderate (28-38 points); very good (39-45 points); and excellent (46-48 points).

**Results:** One year following surgery, 60% (n = 12) of patients were classified as excellent or very good by Method 1, while 45% (n = 9) were by Method 2. Using Method 1, 40.0% (n = 8) were classified as moderate or weak; while 55.0% (n = 11) were by Method 2. Five years later, 75.0% (n = 15) of patients were classified as excellent or very good by Method 1, while 65.0% (n = 13) were by Method 2. Using Method 1, 25.0% (n = 5) were classified as moderate or weak, while 35.0% (n = 7) were by Method 2. There was no significant difference between the methods and the classification in the first (p = 0.527) and fifth year after surgery (p = 0.730).

**Discussion:** Method 1, criticized as being subjective by some authors, proved to be equivalent to the more objective Method 2. These results suggest that subjective bias in Method 1 did not reduce the inherent validity, at least in comparison to Method 2. Based on these results, Method 1 appears to be as effective in evaluating surgical outcomes as reported in the literature.

**Conclusion:** There was no difference between the methods for evaluating late outcomes of patients undergoing cervicoplasty.
CLINICS/INTERNAL MEDICINE
WOMEN LIVING TOGETHER HAVE A HIGHER PREVALENCE OF MENSTRUAL MIGRAINE

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Background/Introduction: Migraine is one of the headache types most frequently occurring in our society and represents an important worldwide public health problem, with a significant individual and collective impact resulting in loss of productivity and quality of life, and economic costs. During childhood, both sexes are equally affected, whereas during puberty the incidence of migraine increases among women, with menstruation being one of the most important risk factors for migraine without aura, with a reduction of migraine crises after menopause. 1-2

The prevalence of menstrual migraine among women with a diagnosis of migraine ranges from 21 to 60%. 3-6 The risk of crises starts two days before the menstruation, increases during the menstrual days and continues up to three days after the first day of menstruation. The physiopathology of menstrual migraine is associated with the period of estrogen fall that occurs days before menstruation. The increase in prostaglandins is also implicated in the triggering of crises. 7-8

The International Classification of Headache Disorders (ICHD) III, beta appendix criteria, recognizes two types of menstrual migraine: 9

* Migraine related to menstruation: migraine without aura that occurs regularly between two days before and three days after the first day of the menstrual cycle, with additional crises with and without aura during other periods of the cycle in at least two of three menstrual cycles.
* Pure menstrual migraine: occurring only between two days before and three days after the first day of the menstrual cycle.

For the purposes of the ICHD III, menstruation is considered to be the endometrial bleeding resulting from the hormonal fall during a spontaneous normal menstrual cycle or from the hormonal fall resulting from the removal of exogenous hormones among women taking
contraceptives.

According to a review and meta-analysis study, the prevalence of migraine is about 16.1% among university students, being 11.3% among men and 21.7% among women. In this population group there are many women who live together, although no previous study has analyzed the characteristics of migraine in this specific subgroup. On the other hand, many studies have assessed the presence of menstrual synchrony among women living together, especially in the university setting. Women who live close to one another may show menstrual synchrony, a term used to designate menstrual cycles occurring during shared periods. This type of phenomenon occurs also among some animals as a biological evolutionary mechanism. McClintock was the first investigator to describe this process in humans in a study conducted on 132 women aged 17 to 22 years who lived together in the university setting. The women were matched in groups according to affinity and a greater menstrual synchrony was observed in these groups.

Graham and McGrew tried to replicate this study in the university setting and detected synchrony between women who were close friends, but not between roommates. The mechanism of synchrony continues to be unknown, with hypotheses being raised regarding pheromones or emotional aspects involving these women. In more recent studies, other investigators did not detect menstrual cycle synchrony among women living in the same environment.

**Objectives:** Although menstrual migraine is a frequent component during the menstrual cycle, no study that assessed menstrual synchrony among women living together in a university environment has described the presence of menstrual migraine among them. Thus, the objective of the present study was to report the prevalence of menstrual migraine in a specific group of women, i.e., university students living together, compared to a group of university students living alone, and to discuss the possible factors involved (contraceptive use, stress, diet, and sleep deprivation).

**Methods:** The study was conducted on female university students aged 18 to 30 years with a diagnosis of migraine according to the the criteria of the International Classification of Headache Disorders (ICHD) III, beta appendix criteria. The subjects were divided into a group of women who lived together with two or more other students and a control group of age-matched students who lived alone, interviewed with a specific questionnaire and assessed for 3 months by means of a pain diary. The data evaluated included frequency of headache crises,
presence of menstrual migraine, intensity of crises, medications used including contraceptives, and triggering factors such as diet, sleep deprivation and stress. The menstrual data and data related to migraine were also investigated in the roommates.

**Results:** We detected a higher prevalence of menstrual migraine among women living together (9, 50%) compared to women living alone (3, 16.7%) (p = 0.03). After binary logistic regression analysis, this finding was not related to the main influencing factors detected, i.e., use of a contraceptive, test stress or sleep deprivation (p = 0.03, adjusted odds ratio: 1.27; 0.02 -0.81). These women also showed menstrual cycle synchrony with their roommates (8, 44.4%) and the presence of headache crises during the menstruation of their colleagues (11, 61.1%).

**Discussion/Conclusion:** We report here a higher frequency of menstrual migraine among female university students living together compared to a control group of university students living alone. What may be the explamnation for this finding? Is there some type of hormonal modulation triggering these crises? May other associated factors be implicated? Previous studies have reported the presence of menstrual cycle synchrony among women living together, but none of them assessed data related to the presence of menstrual migraine among these women. The studies that detected synchrony between the menstrual cycles of these women considered the mechanism of synchrony to be unexplained and raised the hypothesis that the finding might be related to synchronous hormonal changes or to emotional aspects among the women. Considering that the menstrual cycles may be synchronized among women and that hormonal factors shared by these women may justify these findings, it seems reasonable to investigate whether there may be also some peculiarity regarding menstrual migraine crises among women living together. Menstruation and the hormonal changes involved in this period are considered to be important triggering factors for migraine crises. But could these hormonal changes extrapolate the individual and influence other closely present persons as is the case for other species? We still have no satisfactory reply to this question. In conclusion, although there is no consensus regarding menstrual cycle synchrony among women, we detected a higher frequency of menstrual migraine among university students who lived together than among university students living alone. Since there was no previous description of this topic in the literature, we believe that the present study could represent an initial step towards more elaborate investigations that might confirm these findings.
THE INFLUENCE OF METABOLIC SYNDROME IN DEVELOPMENT OF HEART FAILURE

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Mentor name: Almeida, S. M. V.

Background/Introduction: The heart failure (HF) is a serious condition, usually chronic, based on defect of the heart activity as a pump, affecting the performance. This failure in pumping will generate an blood accumulation, if it happens in the right side of heart will generate an swelling of lower limbs, but if it happens in left side of the heart can cause breathing difficulties and cough. Besides that, the patients with heart failure will present rapid heartbeat, weakness and fatigue. Among the main risk factors are the arterial hypertension, dyslipidemia and diabetes. According to data from DATASUS, Brazil have around two million people with heart failure, and around 240 thousand new cases per year. Projections indicate that in 2025 Brazil will have the sixth biggest old age population, this should result in the growing number of heart failure cases and the spending on this syndrome. The metabolic syndrome (MS) according to the World Health Organization (WHO) and the American Diabetes Association (ADA), is an glucose intolerance, insulin resistance and diabetes associated with two or more changes of: abdominal circumference (women: above 88cm; men: above 102cm); dyslipidemia (high total triglycerides, total cholesterol and LDL; low HDL); arterial hypertension (from patients with first degree hypertension to more advanced stages); sedentary lifestyle; microalbuminuria. The clinical relation established between metabolic syndrome and heart failure is in the fact that the symptoms of metabolic syndrome are the main risk factors to the development of the heart failure.

Objectives: Before that, this work has the following objective: to evaluate the close relationship between the signs that feature the metabolic syndrome and the development of heart failure, besides aggravation of the condition.
Methods: This work has a observational nature, because we intend to answer all that was proposed, to do it, we carried out a literature review from scientific articles published between 2010 and 2015 in PubMed, Scielo and others scientific portals, besides text books analyses.

Results: The present study shown that have a predominance of MS and a higher prevalence in woman with a preserved ejection fraction, that is, the preservation of systolic function. The relation between the body mass index (BMI) and the heart failure incidence is that to each more one point of BMI had an grown of HF risk in 5% for men and 7% for women. Between the people that developed heart failure, the obesity was related in isolation to 11% of the cases in men and in 14% in women. The chances to develop the heart failure are elevated for the high incidence of diabetes in the patient. Beyond the fact that systemic arterial hypertension is the important factor in the decompensated frames in both sexes.

Discussion/Conclusion: In view of those facts, becomes evident that the metabolic syndrome presents high prevalence in HF patients, and it is significantly associated with female sex. So, knowing that this topic is very important to the Brazilian and women heath, and is still being not quite discussed, this work tried to amplify the theme and to promote a debate on it, in order to have a better quality of life to those patients.
NEUROMUSCULAR WEAKNESS SYNDROME IN CRITICALLY ILL PATIENT

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Background/Introduction: Critical illness polyneuropathy (CIP), first described in 1984, refers to a primary distal axonal degeneration of motor and sensory fibres leading to severe limb weakness and difficulty in weaning from the ventilator in critically ill patients in a prolonged stay in the intensive care unit. It was first defined by Bolton et al. in 1984 as an acute, motor dominance, axonal nature, but has assumed a multifactorial etiology due to the fact that it is caused by many different pathophysiological mechanisms, being associated with muscle immobilization, multiple organ dysfunction, hyperglycemia, sepsis or mechanical ventilation.

Objectives: Demonstrate the multifactorial pathophysiology of the neuromuscular weakness syndrome in critically ill patients and warn of the importance of a better research on the full pathophysiology of the disease. That way, we seek an differenciation in comparing to others neuromuscular complications involving a prolonged stay in the Intesive Care Unity, such as spinal cord dysfunction, critical illness myopathy or Guillain-Barre syndrome, being able to provide an early diagnosis and the development of medications, such as appropriate therapies.

Methods: We searched the MEDLINE/PUBMED and SCIELO databases for human studies, using predefined search terms for polyneuropathy, critical ill patient and ICU (and its synonyms) combined with terms concerning myopathy, mechanical ventilation, sepsis and hyperglycemia. In addition to the database searches, a search of bibliographies and texts was conducted to identify additional studies. Titles and abstracts obtained from the literature search were reviewed to identify potentially relevant studies. By reading the full texts we first selected the articles that had report the basic science of the critical illness polyneuropathy and its multifactorial etiology. Second, we selected the articles that had revealed each one of the main causative factors. And third, we were able to find articles reporting studies in humans and revealed aspects of a muscle biopy, allowing the pathological study of the muscle fiber such as
the set of nerve fibers. We collected the following information: first description of the disease, main causative factors and its main causative factors and their specific pathophysiology, differential diagnosis, methods for diagnosis and types of muscles or nerves associated to the muscular weakness.

**Results:** The search resulted in articles dating from December 1984 to February 2015. Two reviewers evaluated the resulting abstracts with subsequent full-text review according to inclusion and exclusion criteria. Most studies were excluded due to the focus on non-critically ill populations, or for a study target other than nerve or muscle. Two studies were found to have fair methodological quality. In 2014, Kress and Hall et al. published an observational study from diaphragm-biopsy specimens evaluating the changes in fiber size and expression of slow-twitch and fast-twitch myosin heavy chains in patients undergoing mechanical ventilation, showing the important alterations in the muscle fiber in the CIP and leading us to our next step: from August 2016 we will start monitoring CIP patients in our local hospital and our will is to perform a diaphragm biopsy to study the muscle fiber such as the synaptic cleft. Our expectation is to increase the research on the complete pathophysiology of the neuromuscular weakness of the critical ill patient and understand the full picture of anatomical, histological and synaptic changes developed in this disease.

**Discussion/Conclusion:** The CIP is one of the most common neuromuscular complications, occurring in 25-50% of ICU patients with systemic inflammatory response syndrome or sepsis. To diagnose a CIP, the patient must be critically weakened, demonstrating difficulty in weaning ventilator after heart or lung complications are ruled out, show weakness in the clinical examination, and have a polyneuropathy electrophysiological evidence of sensory and motor axone. The neuromuscular weakness syndrome in critically ill patients is described and characterized by a primary axonal degeneration, without demyelination, that typically affects motor nerves, however, due to the spectrum of clinical alterations in predisposed people, it is assumed that the muscular weakness can be multifactorial, involving, in addition to axonal injury, impairment of neurotransmission at the synaptic level, and muscle disorders prevalent in this population. It still does not have an adequate therapy for this condition, requiring even better investigation into the complete pathophysiology of the muscle weakness in critically ill patients.
HOARSENESS AS THE FIRST SYMPTOM OF AN AORTIC ARCH NON-TRAUMATIC PSEUDO-ANEURYSM: CASE REPORT

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Mentor name: Diego Vilela Santos

Background/Introduction: In 1897, Ortner described a case of cardiovocal syndrome, which attributed the immobility of the left vocal cord to the recurrent laryngeal nerve compression (RLN) caused by dilation of the left atrium in a patient with mitral stenosis. The Ortner syndrome (OS) is related to the impairment of the RLN, which anatomically runs through between the aorta and pulmonary artery (PA), and may also be present in other benign cardiovascular diseases. Thus, the term has been used to describe intrathoracic cardiac conditions resulting in engagement of RLN causing vocal cord paralysis and hoarseness. This paper describes the case of a patient who presented symptoms compatible with OS due to pseudoaneurysm located in the distal aortic arch which juts in flow direction and left side, causing compression of the RLN.

Objectives: Explicit differential diagnosis based on semiologic features.

Methods: Case Report: based on medical records and imaging tests.

Results: T.A.M.S, female, 80 years, hypertension, former smoker (14 pack / years) with no history of accidents / injuries and surgeries, reports beginning of progressive hoarseness for 6 months without respiratory symptoms. The patient developed worsening and startup dry cough, and paresthesia in the left upper limb after 4 months of the onset of symptoms. Thus she sought care in your city and was referred to our service, being diagnosed by chest tomography with pseudoaneurysm in the distal segment of the aortic arch that projected in caudal direction and left lateral, measuring 3 cm in crânio-caudal axis. Therefore, percutaneous endovascular repair was indicated, and carried the implant chest nitinol stent, self-expansive and coated with
28x150 mm, covering the entire area of the pseudoaneurysm and thrombosed aneurysm adjacent. The procedure was successfully performed and significant improvement of symptoms was already seen in postoperative mediate.

**Discussion/Conclusion:** Early diagnosis is important because of the association with vascular causes, neoplastic, surgical, inflammatory, infiltrative, traumatic and infectious, which in many cases are extremely severe.
BEHAVIORAL CHANGES DUE TO THE FRONTAL LOBE SYNDROME CAUSED BY TRAUMATIC BRAIN INJURY

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Background/Introduction: Around 50 to 75% of individuals who have undergone Traumatic Brain Injury (TBI), develop cognitive and behavioral symptoms that are present in the following. The Frontal Lobe Syndrome (FLS) is characterized by personality changes, losses in social behavior, cognitive disorders and other neurological changes. This case illustrates the main features of the syndrome, which developed into alcoholism and finally a dementia.

Objectives: Explain the manifestations of FLS and define therapeutic approaches.

Methods: Case Report: based on medical records and imaging tests.

Results: B.I.S., 58, single, rural worker, was referred to our service with clinical state of psychomotor agitation and suspected Acute Myocardium Infarct, discarded after conducting ECG and cardiac enzymes. He had severe TBI history, in an automobile accident in 2010, with extensive lesion in the right frontal lobe. Then, neurosurgery was performed at that time and evolved with seizures controlled with oral anticonvulsants. Moreover, after TBI, the patient began to show behavioral changes, with personal hygiene negligence, without initiative for activities such as bathing or shaving, became more impulsive with food, and uninhibited in his behavior. Also began to show compulsive hoarding of garbage at home. According to the sister, he began to behave quite differently from his usual way, as if it were someone else. Over the past two years he has evolved with daily alcohol consumption, in large quantities, and significant worsening of memory. During hospitalization, he showed significant improvement in agitation, which was associated with alcohol abstinence, and evolved with gradual recovery.
of the level of consciousness. However, he not fully recovered his memory and maintained inappropriate behaviors like drinking water from the toilet, eating junk food scraps and inability to perform his own hygiene.

**Discussion/Conclusion:** Clarifying the organic cause for the symptoms allows the choice of more effective treatment strategies and the most appropriate orientation of family members about the management of the patient.
SUPRAVALVULAR AORTIC STENOSIS (SVAS) AND WILLIAMS-BEUREN SYNDROME

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Background/Introduction: Williams-Beuren syndrome (WBS) is a rare gene deletion syndrome with an estimated incidence of 1: 13,700 to 1: 25,000 live births; It was described independently by Williams et al. in 1961 and Beuren et al. in 1962. The diagnosis of the syndrome is clinical, with the facies of "elf" outstanding feature. Cardiovascular abnormalities occur in 80% of those affected by the syndrome being supravalvar aortic stenosis (ESA) the most frequent heart defect, present in 64% of patients.

Objectives: Our objective is to report a case of a patient diagnosed with supravalvular aortic stenosis with subsequent clinical diagnosis of the William-Beuren syndrome. Case reports aims to increase the level of clinical suspicion of the physician, allowing diagnostics and early treatment.

Methods: The information in this study were obtained through review of medical records, interview with the patient, photographic record of the diagnostic methods to which the patient was submitted and review of the literature.

Results: A male patient aged 15 years old who sought assistance claiming to dyspnea, nonspecific pain and numbness in limbs, occasionally associated with blurred vision, profuse sweating and feeling of pressure above the neck when performing high-intensity activities; also reported remission of symptoms after rest period; Symptoms appeared 5 years ago with worsening in last 6 months, preventing the realization of physical activity. Examination showed stable vital signs, "elf" facies, parvus et tardus pulse, palpable thrill in sternal notch region, auscultation with regular rhythm and a systolic ejection murmur, rude and diffuse, more intense in the aortic area, irradiating to cervical territory. The ECG showed sinus rhythm and left
ventricular overload. Doppler echocardiography showed SVAS, membrane subtype. Coronary angiography showed an supravalvular aortic membrane associated with narrowing "hourglass" of the ascending aorta. Surgical approach for correction was performed with success.

**Discussion/Conclusion:** The Williams-Beuren syndrome is presented as a challenge to clinical practice and cardiology since it can be progressive and has complications associated with treatment delay, so case reports allow to increase the index of suspicion and improve the prognosis of these patients.
RELATIONSHIP BETWEEN RISK FACTORS FOR ATHEROSCLEROSIS AND AORTIC STENOSIS IN ELDERLY PATIENTS

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Mentor name: João Carlos Vieira da Costa Guaragna

Background/Introduction: Calcification of the aortic valve is a chronic process of degeneration of the leaflets, leading to aortic stenosis and may be related to coronary atherosclerosis.

Objectives: To evaluate the relationship between risk factors for atherosclerosis, the presence of established cardiovascular disease and its association with the occurrence of aortic stenosis in patients over 60 years. Furthermore, we evaluated the relationship between cardiovascular risk factors and the occurrence of in-hospital deaths after surgery for aortic valve replacement with or without coronary artery bypass surgery (CABG) associated.

Methods: We performed a prospective cohort of 5,390 patients, of whom 431 over 60 years who underwent surgery for aortic valve replacement with or without associated CABG, in Hospital São Lucas, between December 2004 and November 2013. We evaluated risk factors associated with atherosclerosis and established coronary heart disease (need for concomitant CABG) using univariate analysis followed by multivariate logistic regression analysis. Patient data were stored in Access 2013 database and analyzed using SPSS 17.0. Descriptive analysis was performed using absolute and relative frequency measures and analytics, the Chi-square, considering significant p <0.05.

Results: 57.3% were men, 60.8% were hypertensive, 19% were smokers, 17.4% had dyslipidemia, 16.5% with diabetes and 36.9% were submitted to concomitant CABG Only 18.6% of patients did not have any of the variables evaluated. Multivariate analysis identified
as independent risk factors for death in the postoperative diabetes mellitus (OR: 1.84) and concomitant CABG (OR: 2.35).

**Discussion/Conclusion:** At least one risk factor for atherosclerosis was present in 81.4% of patients who underwent surgery for aortic valve replacement. There was a higher incidence of in-hospital postoperative mortality in patients undergoing concomitant CABG and in diabetic patients.
EFFECT OF A RESISTANCE EXERCISE PROTOCOL ON BLOOD OXIDATIVE STRESS BIOMARKERS OF YOUNG ADULTS

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Mentor name: Ramón Rodrigo Salinas

Background/Introduction: There is evidence supporting endurance exercise as treatment for essential hypertension, diabetes mellitus and metabolic syndrome, reducing biomarkers of oxidative stress and also clinical parameters. However, there is no information exclusive for resistance exercise, which increases muscle mass and decreases its weakness, preventing musculoskeletal injury. We propose that a resistance exercise program improves the antioxidant defenses and decreases blood levels of oxidative stress biomarkers in young adults at rest and after a maximum effort.

Objectives: The aim of this study was to characterize the effect of a resistance exercise program on blood oxidative stress biomarkers and antioxidant capacity of young adults both at rest and after a maximum effort.

Methods: A quantitative, experimental, longitudinal, prospective study was made on two groups of young adults between 18 and 25 years old, one control group and the other subjected to a 4-week resistance exercise program. Ferric reducing ability of plasma (FRAP), malondialdehyde (MDA) and enzymatic activity of catalase (CAT), glutathione peroxidase (GPX) and superoxide dismutase (SOD) in red blood cells were measured at rest and after maximum effort (Course-Navette test), both before and after performing the 4-week exercise program. Data analysis was performed using a two-way ANOVA and a Bonferroni post hoc test, only p values <0.05 were regarded as statistically significant.

Results: The resistance exercise group increased significantly its antioxidant capacity of plasma at rest and decreased its lipid peroxidation in red blood cells after Course-Navette test, measured by FRAP and MDA respectively, as compared with pre training. There was an
increase in the antioxidant enzymatic activity in red blood cells. SOD activity in the resistance exercise group post training increased in comparison with pre training, both at rest and after Course-Navette test. CAT activity increased significantly in the resistance exercise group post training at rest in comparison with pre training. In relation to the activity of SOD, there were not significant changes either at rest or after Course-Navette test before and after the protocol.

**Discussion/Conclusion:** A 4-week resistance exercise program of 12 sessions improves antioxidant biomarkers at rest and reduces the oxidative stress biomarkers assessed after maximum effort in young adults. However, it is necessary to establish the weights, pause time and exercise models that account for the best adaptation to reduce oxidative stress.
INTRAVENTRICULAR CYSTICERCOSIS

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Background/Introduction: The central nervous system cysticercosis is the disease developed by the installation of Taenia solium, at its larva form, in the central nervous system, being located specially where there's proportionally more intense blood flow. It’s the most frequent neuroparasitosis and one of the neurological disorders that presents more polymorphism. The clinical manifestations are innespecific. It depends on the number, characteristics of the injury, phase of the development and involution of the parasite an the intensity of the inflamatory-imunne response of the host. The main diagnostical criteria are: detection of modifications either at the cerebrospinal fluid or at radiographs or findings in surgeries and necropsies.

Objectives: E.C.B., male, 51 years old, had a brain NMR taken in 2012. The images were taken in sagittal plane T1, axial T2, FLAIR, FIESTA, T2 GRE, diffusion and coronal T2 without contrast and T1 GRE 3D after contrast. It was found an expansion in the supra and infratentorial ventricular chambers and the presence of a round image in the IV ventricle. This characteristic is a heterogeneous sign obtained in all sequences with hipotense center, it’s measures where 0,9 x 1,1 x 1,0 cm. It presented focal enhancement by the contrast and hiposignal in the sequence T2 and FLAIR with restrict difusion.

Methods: The intraventricular neurocysticercosis corresponds only by 0,7-33% of all cases. There is a predilection for the fourth ventricle (50%), followed by the lateral ventricles (35%), third ventricle (10%) and aqueduct (5%). The presentation in the NMR shows well defined cysts because of the difference in intensity of signal between the cysts and the cerebrospinal fluid. However, sometimes the cysts can have the same intensity compared to the cerebrospinal fluid.
Results: Depending on it’s dimensions, these injuries can have a considerable expansive effect in the chambers where they are located. The obstruction of the cerebrospinal fluid flow, either in the ventricles or in the basal cisterns, or by the diffuse cerebral swelling determinates symptoms of intracranial hypertension such as headache, vomiting and papillary swelling.

Discussion/Conclusion: The nuclear magnetic resonance represents an important progress in the diagnosis and allows a better therapeutic planning for a disease wich has a significant socioeconomic impact, not only due to the inaptitude, temporary or permanent, that leads to in individuals with productive age, but also for it’s high costs of diagnosis and treatment.
SPRUELIKE ENTEROPATHY ASSOCIATED WITH OLMESARTAN: A CASE REPORT

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Mentor name: Francisco Sergio Rangel de Paula Pessoa

Background/Introduction: Since 2012, it is recognized that the use of Olmesartan is associated with a severe type of sprue-like enteropathy and that this condition is responsive to drug interruption.

Objectives: Reporting a chronic diarrhea case associated with non–celiac villous atrophy induced by chronic use of Olmesartan, an angiotensin II receptor antagonist usually used to treat systemic arterial hypertension (SAH).

Methods: Data had been collected by medical records, physical exams and clinical analysis of the exams performed before and after the interruption of Olmesartan use.

Results: A 60 years old doctor presented green diarrhea 6-8 times a day, flatulence, weak cramps and lost 5 kg in 05 months. Physical examination showed an increase of bowel sounds. IgA endomysial and anti-tissue transglutaminase antibodies were both negatives. A duodenal biopsy performed by upper gastrointestinal endoscopy showed a lymphocytic enteropathy with intestinal villous hypotrophy. We started Budesonide and granulated Mesalazine orally in order to treat the possible immune-mediated enteropathy. The patient had an initial improvement, but a few weeks later the episodes of diarrhea came back. After a new pharmacological investigation, it was decided to interrupt the Olmesartan that was used for many years. A few weeks later the patient's condition of diarrhea ceased completely and, 6 months later, a new duodenal biopsy showed no more villous atrophy.
Discussion/Conclusion: Non-celiac villous atrophy (sprue-like enteropathy) is a rare disease. It should be considered in Olmesartan users who have clinical and histopathological features similar to celiac disease but with negative serological markers.
ACCEPTANCE RISK IN PATIENTS WITH MULTIPLE SCLEROSIS TREATED WITH NATALIZUMAB

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Background/Introduction: In the last decade, new drugs for multiple sclerosis have been tested and approved. Among them is natalizumab, that despite its high efficacy, has its use limited by the risk of developing progressive multifocal leukoencephalopathy.

Objectives: By applying a questionnaire with inclusion of patients diagnosed with relapsing-remitting multiple sclerosis, we aimed to assess how patients assess the risks of treatment with natalizumab and the factors involved in this evaluation.

Methods: In order to assess the perception of risk of our patients diagnosed with relapsing-remitting multiple sclerosis, we applied the questionnaire "Questionnaire about the risk perception of developing progressive multifocal leukoencephalopathy when in use of natalizumab" and NEO Five-Factor Inventory of Personality Traits.

Results: We found that most patients consider multiple sclerosis a serious disease and realize natalizumab and other drugs are effective in reducing neurologic disability. On average, patients consider the risk of developing PML as moderate to high and 67% of patients consider 1: 1000 as an impediment risk for the drug.

Discussion/Conclusion: Brazilian patients in this study have a lower threshold for switching to natalizumab than those interviewed by Tur (Barcelona) and Heesen (Germany). Our study shows that, for this population with MS, it is possible that the treatment recommendations of other countries have to be adapted to the Brazilian population.
THE USE OF LACTATE AS A PREDICTING MARKER OF DEATH RISK IN TRAUMA PATIENTS

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Mentor name: Ana Amélia Lopes Puls

Background/Introduction: Lactate levels in clinical practice are often used as a tool to find the illness severity and to gauge response to therapeutic interventions. The use of lactate as a clinical prognostic tool was first proposed by Broder and Weil in 1964 when they observed that a lactate excess of > 4 mmol/L was associated with poor outcomes in patients with undifferentiated shock. Since then, elevated levels of serum lactate have been demonstrated to be predictors of morbidity and mortality in hemodynamically unstable patients with surgical conditions, such as trauma.

Objectives: Perform a systematic review about the quality of the lactate’s dosage as a morbidity and mortality marker in trauma patients based on the last year’s published data.

Methods: A literature search was completed with MedLine (acessed by PubMed) using Lactate, Trauma, Mortality, Marker and Predictor as basic descriptors, restricted English language publications from 2015 to June of 2016. Randomized, controlled trials were prioritized. Case reports and studies with fewer than 40 patients were excluded. Participants: patients in the acute setting, i.e. patients assessed pre-hospitally, in the trauma center, Emergency, or Intensive Care Unit. Exposure: elevated lactate levels in venous, arterial or capillary blood. The authors independently screened the selected studies for inclusion. Studies were included if both authors considered the study as relevant for answering the objective. 14 papers from 2015 to 2016 were initially identified - 9 papers were rejected after reading the abstracts. Of the 5 remaining papers 1 was rejected due to paediatric focus. 4 papers were fully critically reviewed.
**Results:** All the reviewed studies show that an elevated lactate in a trauma patient is strongly correlated to severity of injury, length of stay and morbidity and mortality mainly due to a result of anaerobic metabolism when tissue hypoperfusion occurs. On top of that, they also found an association between elevated lactate and other clinical outcomes which includes injury severity, Intensive Care Unit admission, length of hospital stay, organ failure, respiratory complications, blood loss, blood product requirement, catecholamine support or emergency operation among others. The predictive value of blood lactate is further supported by the fact that studies demonstrate a dose-response relationship between the lactate levels and the mortality rates.

**Discussion/Conclusion:** Elevated lactate levels measured in adult trauma patients are associated with mortality and may be associated with other clinical outcomes. Blood lactate monitoring is useful for risk assessment in patients admitted acutely to hospital. Lactate is a useful marker of outcome in trauma, in addition to current markers of severity.
ADVANCES IN DIAGNOSTIC EVALUATION OF CELIAC DISEASE AND MALABSORPTION: LITERATURE REVIEW

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Background/Introduction: Celiac disease (gluten-sensitive enteropathy or nontropical sprue), first described by Aretaeus in the second century AD., is an autoimmune disorder induced by dietary gluten in genetically predisposed individuals, affecting âˆ’¼1% of the global population. The classic clinical presentation of celiac disease includes diarrhea with steatorrhea, abdominal pain, weight loss, growth failure in children, anemia, vitamin B deficiency signs and symptoms among others. Mild forms of celiac disease may go undetected because of limited signs and symptoms. However, new diagnosis methods can change this scenario.

Objectives: To perform a literature review about the current knowledge and advances of the diagnostic evaluation of celiac disease and malabsorption.

Methods: A literature search was completed with MedLine (accessed by PubMed) using Celiac, Disease, Diagnosis, Methods and Advances as basic descriptors, restricted English language publications from the last decade. Systematic and Literature Reviews were prioritized. Case reports were excluded. The 10 most recent studies with the highest Impact Factor were chosen to be reviewed. The studies were selected between 1/01/2016 to 1/05/2016.

Results: Testings for Celiac Disease should be completed while individuals are on a gluten-containing diet. An assessment of the presence and degree of steatorrhea can be determined with a 72-hour stool fat measurement. The evaluation for possible celiac disease should start with serologic testing for the presence of IgA tissue transglutaminase antibody and IgA endomysial antibody. In the setting of IgA deficiency, the IgG anti-tissue transglutaminase test should be obtained. If the IgA or IgG results are positive, then a small bowel biopsy is
indicated for confirmation. Findings are small bowel biopsy that are consistent with celiac disease include increased intraepithelial lymphocytes, at mucosa with mucosal atrophy, complete loss of villi, and crypt hyperplasia. Capsule endoscopy is an alternative method for evaluation of celiac disease and identification of complications. The genetic tests show that the class II HLA types DQ2 and/or DQ8 are found in almost all patients with celiac disease, but also in 30%-40% of the western Caucasian population. All diagnostic guidelines emphasize the combined use of biopsy and serologic analyses for diagnosis.

**Discussion/Conclusion:** Newer diagnostic tools, including serologic tests for antibodies, greatly facilitate diagnosis of Celiac Disease. Tests for celiac-permissive HLA DQ2 and DQ8 molecules are useful in defined clinical situations. Celiac disease is diagnosed by histopathologic examination of duodenal biopsies. The advances of the diagnostic evaluation must be pursued.
THE RELATIONSHIP BETWEEN 12MWD AND QUALITY OF LIFE IN TUBERCULOSIS SEQUELAE PATIENTS

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Background/Introduction: The incidence of TB cases in Indonesia is very high. Although patients already underwent treatment and was declared cured from infection, it does not mean that the infection does not leave sequelae. Functional capacity and quality of life are decreased in TB sequelae patients.

Objectives: The purpose of this study is to determine the relationship between functional capacity (12MWD) and quality of life (SGRQ) in tuberculosis sequelae patients.

Methods: Patients with TB sequelae aged 18-59 years without comorbidity is examined the functional capacity with a 12-minute walking distance test and assessment of quality of life using the SGRQ questionnaire. Statistical analysis is obtained using correlation and regression.

Results: There is significant negative correlation (p <0.05) between the 12 minute walking distance and the activity domain (r -.336). In other domains, there are negative relationships but not significant such as the total domain (r -.152), impacts (r -.124), and symptoms (r -.043).

Discussion/Conclusion: There is a significant negative relationship between the 12 minute walking distance and quality of life as assessed by the SGRQ questionnaire in the activity domain, in other domains there are also negative correlations but are not statistically significant. The higher the functional capacity of patients with tuberculosis sequelae, the higher the quality of life.
PREHYPERTENSION IN YOUNG ADULTS AND RELATED FACTORS

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Mentor name: Aragao, I.P.B

Background/Introduction: Worldwide, several studies have been conducted about the association between hypertension in childhood and adolescence and socio-demographic factors: lifestyle, family history and anthropometry.

Objectives: This study aims to identify the prevalence of prehypertension and related variables in young adults.

Methods: Cohort study. The variables were collected by questionnaire or measures. Univariate analysis was performed using the chi square and it was performed five multiple logistic regression models for the variables with p <0.10 in the univariate analysis. The students were from three courses, either college as vocational school, were evaluated: gender, age, course, skin color, income, education, lifestyle, history of hypertension, weight, waist circumference and prehypertension defined as VII Joint National Committee: systolic 120-139 and diastolic 80-89 mmHg.

Results: A total of 394 students were evaluated. There were 309 (78.43%) in the normal group (NG) and 85 (21.57%) in prehypertension group (PH) of students. It was found in NG and PG, respectively: females 254 (82.2%) and 44 (51.8%) (p <0.001); age (three age ranges: until 19 years, 20-25 and 25-30) more frequent in older (p = 0.001); ethnicity (self declared) black 16 (5.2%) and 11 (12.9%) (p <0.001); 62 mother´s hypertension (20.1%) and 28 (32.9%) (p = 0.024); overweight 34 (11.0%) and 17 (20.0%) (p = 0.045); obese 3 (1.0%) and 10 (11.8%) (p <0.001); increased abdominal circumference 37 (12.0%) and 19 (22.3%) (p = 0.024). At least one of five multiple logistic regression models were associated with absence or presence of prehypertension (OR, 95% CI): females (4.026, 2.373 to 6.828), age (1.081, 1.004 to 1.164),
hypertensive mother (1.838, 1.027 to 3.289) and greater waist circumference (1.067, 1.035 to 1.100).

**Discussion/Conclusion:** Worldwide, several studies have been conducted about the association between hypertension in childhood and adolescence and socio-demographic factors: lifestyle, family history and anthropometry.
CORRELATION BETWEEN ANTIOXIDANT DEFENSE SYSTEM BIOMARKERS AND INFARCT SIZE IN ISCHEMIC STROKE

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Mentor name: Ramón Rodrigo S

Background/Introduction: Stroke is the second most common cause of mortality worldwide, after heart disease. Oxidative Stress plays a key role in the pathophysiology of ischemia-reperfusion events such as Stroke. Oxidative Stress occurs when there is an imbalance between the generation of reactive oxygen species (ROS) and the antioxidant defense systems, so that the latter becomes overwhelmed. The aim of the present study is to determine the correlation between antioxidant defense system biomarkers and the Infarct Size (volume) in patients with ischemic stroke.

Objectives: The general objective was to study the relationship between antioxidant defense system biomarkers and Infarct Size following Ischemic Stroke. The specific objectives are: To determine uric acid plasma levels following Ischemic Stroke at days 1, 2, 3, 4, 5, 6, 30. To determine ferric reducing ability of plasma levels following stroke at days 1, 2, 3, 4, 5, 6, 30. To determine Infarct Size volume following stroke at days 0 and 30.

Methods: An observational, prospective and analytical study was carried on 20 patients with Ischemic Stroke. It was taken blood samples from every patient, following stroke at days 1, 2, 3, 4, 5, 6 and 30. From every blood sample it was measured FRAP and Uric Acid levels. The Infarct Size volume was measured using magnetic resonance imaging at days 0 and 30 following Ischemic Stroke.

Results (preliminary): There is a negative correlation between uric acid levels and Final Infarct Size volume at day 30 (p<0.05).
Discussion/Conclusion: This is the first study that determines antioxidant defense system biomarkers progression over time following Ischemic Stroke and its relationship with Infarct Size volume. These findings support the role of Oxidative Stress in the pathophysiology of Ischemic Stroke and suggest a possible antioxidant therapeutic approach in order to reduce the ischemia-reperfusion injury (Final Infarct Size).
EFFECT OF A COMBINED ANTIOXIDANT THERAPY ON INFARCT SIZE IN AN EXPERIMENTAL MODEL OF ACUTE MYOCARDIAL INFARCTION

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Background/Introduction: Percutaneous coronary angioplasty is the best treatment for acute myocardial infarction. However, the reperfusion causes a paradoxical increase of the ischemic initial injury, which is associated to oxidative stress. It could be expected that antioxidant reinforcement could reduce this damage. Thus, we tested the hypothesis that the use of a combined antioxidant therapy with ascorbate, n-acetylcysteine and deferoxamine during the reperfusion should reduce the myocardial reperfusion injury assessed by a reduction of the infarct size.

Objectives: To reduce the myocardial reperfusion injury associated to oxidative stress through a combined antioxidant therapy of ascorbate, n-acetylcysteine and deferoxamine in a Langerdoff model of acute myocardial infarction.

Methods: Isolated hearts of male Sprague-Dowley rats (250-300g) were perfused retrogradely by Langerdoff technique, monitoring the electrical and mechanical parameters of the heart. The hearts were subjected to 30 minutes of global ischemia followed by 60 minutes of reperfusion. During the reperfusion, the hearts were perfused with increasing doses of ascorbate, n-acetylcysteine and deferoxamine (antioxidant group) or saline solution at the same osmolarity (control group). Finally, the hearts were sliced to measure the infarct size, expressed as a percentage of the total area. Quantitative variables were compared using a Mann-Whitney U-test. A p<0.05 was considered significant.

Results: We analyzed 3 rats in the control group and 3 in the group supplemented with antioxidants. The control group showed an average infarct size of 40% of the total area. The average infarcted area in the antioxidant group was about 5%.
Discussion/Conclusion: A combined antioxidant therapy could be effective to ameliorate the reperfusion injury associated to oxidative stress, expressed by a reduction of the infarct size. Nevertheless, more studies are required to establish the security and efficacy of this intervention in a clinical model. Financed by FONDEF.
NEUROFIBROMATOSIS TYPE 1: CASE REPORT

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Background/Introduction: Neurofibromatosis (NF) type 1 was first described in 1882. It is a genetic disease of autosomal dominant condition which presents multisystem disorders and skin manifestations such as café-au-lait spots, ephelides and neurofibromas. It is one of the most common inherited disease with an estimated prevalence of 1: 2,000 to 1: 7,800 live births. The gene NF-1 is mapped to 17q12-22 with high spontaneous mutation rate and increased predisposition to benign and malignant tumors. Some symptoms are learning disabilities, attention déficit disorder, headache and decreased visual acuity, besides the skin manifestations.

Case Presentation: A female patient, 15 years old, brown, natural from Palmital and resident in Campos Novos Paulista. Initially, due to a decrease in visual acuity chart in the right eye, the patient looked for eye care when were found nodules on Iris (Lisch nodules) and reported the presence of café-au-lait spots on the body, suggesting diagnosis of neurofibromatosis I, which led the referral to the neurology service for disease investigation.

Diagnostic and Therapeutic Focus and Assessment: During neurological medical care, the patient reported low visual acuity in the right eye since childhood and café-au-lait spots since birth and they have been increasing in number over time. She reports feeling occasionally dizziness when standing suddenly. In family history the patient reports that her father has café-au-lait spots and low vision in one eye; paternal grandmothe rhas café-au-lait spots and injuries of papule types in dorsal área and a10 year old brother who hás decreased visual acuity in one eye.

On physical examination were found café-au-lait spots in the dorsal region measuring about 2 cm, in the axillary and inguinal region with 1 to 2 cm and anterior cervical region of 1 cm. Presence of bilateral ephelides in inframammary region and absence of neurofibromas.
The results of the neurological examination were strength grade 5 globally, preserved sensibility, reflexes +2/+4, preserved muscle tone, march unchanged, static and dynamic equilibrium preserved, decreased visual acuity in the right eye and it was reported blurred vision by the patient.

**Follow-Up and Outcomes:** The patient presents to the examination criteria for the diagnosis of neurofibromatosis type 1. Imaging tests were requested for further investigation of disease degree and subsequent follow-up.

**Discussion/Conclusion:** NF1 is inherited from one parent at about 50% of cases. It affects both sexes and has a dominant gene penetrance of nearly 100% and variable expressivity. Neurofibromatosis is manifested in a systematic and progressive mode with skin, neurological and optical effects. Often, patients with the disease are diagnosed because of ophthalmological complaints. The three main manifestations are neurofibromas, café-au-lait spots and Lisch nodules, which occur in more than 90% of patients until puberty. In the reported case, the patient has decreased visual acuity from 10 years age and bilateral Lisch nodules. The NF1 diagnosis is primarily clinical and requires two or more of the following criteria established by the National Institutes of Health (NIH): 1) six or more café au lait spots; more than 5mm in prepubertal patients, or more than 15 mm in post-pubertal patients; 2) two or more neurofibromas of any type, or one plexiform neurofibroma; 3) ephelides in the axillary and inguinal regions; 4) optic glioma; 5) two or more Lisch nodules; 6) Bone characteristic lesion such as sphenoid dysplasia or thinning of the wing cortical long bones, with or without pseudoarthrosis; 7) only one criteria, but having a first degree relative (parent, sibling or child) who meets the criteria of the NIH.

In this case report, the patient has two of the three main manifestations: Lisch nodules and café-au-lait spots, while the presence of neurofibromas is under investigation. The patient also meets three criteria of the NIH: more than six spots with more than 5 mm, ephelides in the axillary regions and Lisch nodules, besides suggestive family history of neurofibromatosis I. Among the possible NF 1 complications there is increased susceptibility of benign and malignant tumors, such as neuroblastoma, leukemia, pheochromocytoma, and sarcomas. Currently, there is no specific treatment for NF 1, but the complications can be improved with early diagnosis of the disease.
A CASE OF WHIPPLE’S DISEASE IN SOUTH BRAZIL

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All co-authors names: Zanluchi, Lourenzo Bezerra de Sá

Mentor name: Diehl, Leandro Arthur

Background/Introduction: Whipple’s disease is a very rare condition caused by Tropheryma whippelii. It is characterized by three stages - First, the prodromal stage is marked by protean symptoms, along with chronic nonspecific findings, mainly arthralgia and arthritis. Secondly, the steady-state stage may occur years after and as chronic diarrhea, malabsorption syndrome and weight loss. In the final stage, many organs can be involved, but complications affect mainly neurological, pulmonary and cardiovascular systems.

Case Presentation: E.N, a 68-year-old male caucasian was transferred to HU-UEL with a history of a 33Kg weight loss in the last year (from 74Kg to 41Kg, on admission), associated with intermittent diarrhea, progressive dysphagia, asthenia, and a previous 10-year-history of arthralgia. Physical examination showed dehydration, mildly discolored mucous membranes, and no other findings. Lab tests showed a normocytic normochromic anemia, neutrophilia, hyponatremia, hypomagnesemia, hypocalcemia and hypoalbuminemia.

Diagnostic and Therapeutic Focus and Assessment: The patient had a history of recurring depressive disorder and elevated blood pressure. Cancer was the main initial consideration due to patient’s massive weight loss. Upper endoscopy showed erosive duodenitis (biopsied). On the third day, due to fine crackles on right pulmonary base, a thoracic CT was requested and it showed an opacity on right pulmonary base, left para-aortic lymphadenopathy and diffuse small intestine distension. On day 4, supraclavicular lymphadenopathy was detected; a new chest CT revealed a probable scarring process in lower lobe of right lung, and lung cancer was discarded. Lymphoma was suspected because of the multiple lymphadenopathies. On the 18th day, duodenal biopsy results came out with a reagent PAS staining, so Whipple’s disease was diagnosed with the clinical and pathological findings.
Follow-Up and Outcomes: When Whipple’s was diagnosed on day 18, sulfamethoxazole trimethoprim for a one-year-treatment was initiated. Due to the suspicion of lymphoma, cervical and thoracic lymph nodes biopsies were performed, that resulted negative for neoplasia. An echocardiogram showed concentric hypertrophy of left ventricle with normal ejection fraction, right mitral insufficiency, moderate aortic insufficiency and aorta ectasia. Although such findings can be present on Whipple’s, they may also be due to the patient’s elevated blood pressure, so their etiology was not defined. Patient was discharged after 25 days. Currently, after a month of antibiotic therapy, patient reported improvement of all his symptoms and regained some of his weight (now with 56Kg).

Discussion/Conclusion: This case shows a classic presentation of Whipple’s disease, and it illustrates the difficulty in recognizing this disease due to its rarity and nonspecific clinical features, often delaying the diagnosis in several years. In HU-UEL, PAS staining of duodenal biopsies is not routine, since Whipple’s is most commonly described in Europe and North America. However, due to a clinical discussion during that same week in Pathology department about Whipple’s, this was considered a possibility, and specific PAS staining was performed. This patient was born in Cianorte-PR, and currently resides in Londrina-PR urban area. This makes us wonder if there may be more cases of Whipple’s on our region that are not being diagnosed due to the lack of proper investigation. So, we suggest that Whipple’s disease be considered a possible diagnosis in patients investigated for chronic arthralgia, diarrhea, malabsorption and/or weight loss, even in South Brazil, where we did not know it existed.
MILITARY TUBERCULOSIS ASSOCIATED WITH THE CHRONIC USE OF DEXAMETHASONE IN THE TREATMENT OF NEW DAILY PERSISTENT HEADACHE.

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Mentor name: Diehl, Leandro Arthur

Background/Introduction: Miliary tuberculosis (TB) is the widespread dissemination of Mycobacterium tuberculosis via hematogenous spread. It may occur in an individual organ (rare < 5%) or any number of organs throughout the whole body (>90%). Risk factors include AIDS, cancer, corticosteroids and several others. TB is a public health issue in Brazil: there are 70 thousand new cases and 4.6 thousand deaths by TB each year. Brazil occupies the 17th place among the 22 countries which are responsible for 80% of the cases.

Case Presentation: C.A.M.G, a 35-year-old male caucasian was transferred to HU-UEL with a history of chronic headache since 2008 that, two months ago, became associated with evening fever, asthenia, anorexia, weight loss and night sweats. The patient’s physical examination includes elevated blood pressure, tachypnea, moon facies, mildly discolored mucous membranes, increased vocal fremitus and hyperresonant percussion in left pulmonary apex, and edema in eyelids, face and lower limbs.

Diagnostic and Therapeutic Focus and Assessment: In 2008, patient started to feel constant headache that was radiologically investigated and diagnosed as new daily persistent headache (NDPH). He was prescribed: topiramate, valproate, sertraline, gabapentin and methadone, with no improvement. Between 2013 and 2015, the patient started using dexamethasone and morphine three to six times a week in a local E.R. for headache. On March 2015, the patient presented fever, asthenia, anorexia, weight loss and night sweats; he was referred to HU-UEL in May 2015 for investigation of those symptoms. Lab exams on admission showed anemia, leukocytosis, elevated inflammatory markers, negative cultures and negative serum markers for HIV, CMV, Epstein-Barr and Syphilis. CSF presented low glucose and elevated proteins.
Tuberculin skin test was negative (1mm). A chest radiography was consistent with an infectious process, and he was started on antibiotics. Only 7 days after admission, CSF culture became positive for M. tuberculosis.

**Follow-Up and Outcomes:** The patient condition evolved poorly, even after the empiric antibiotic therapy. The delayed diagnosis due to the unaltered PPD and culture (contrasting the chest radiography that was suggestive of an infectious process) favored the onset of a severe organic dysfunction and deferred the beginning of therapy. On the third day after admission, patient presented lowered conscience level and acute respiratory distress that required intubation for mechanical ventilation and transference to an intensive care unit. On the fifth day, he evolved to septic shock, requiring vasoactive drugs. Rifampin, isoniazid, pyrazinamide and ethambutol were only started on day 7, after the result of CSF culture was positive for M. tuberculosis. TB was later shown to affect lungs, kidneys, spleen and spinal membranes. The patient died on day 10, due to cerebral edema and cranial hypertension.

**Discussion/Conclusion:** This case shows that miliary TB diagnosis is often difficult. Although positive chest radiographic findings and a positive culture or tuberculin skin test support the diagnostic, negative results do not exclude the disease. Our case also reinforces the importance of immunosuppression as an important risk factor. Although AIDS is highly associated with military TB, other conditions that lead to immunosuppression must always be taken under consideration. Corticosteroids, which are the only viable option of treatment for several diseases, can also cause an immunosuppressed state that predisposes to miliary TB, especially with longer-duration glucocorticoids (such as dexamethasone), longer use, and higher doses. Hence, this case highlights the importance of educating the patient about the risks of the medication he is using, and reinforces the importance of the health professional to always be vigilant on the possible complications of chronic corticosteroid use.
PET-CT CONTRIBUTION TO THE EVALUATION OF A CLASSIC SEMINOMA WITH RETROPERITONEAL METASTASIS IN AN ADOLESCENT: A CASE REPORT.

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Mentor name: Elson Arruda Linhares

Introduction: Positron Emission Tomography - Computed Tomography (PET-CT) is an important radiologic exam used to evaluate metabolic alterations; it is also considered significant collaborator in oncological diagnostics. PET-CT can be used to investigate primary testicular cancer originated from germ cells. This malignancy is divided in non-seminoma and seminoma - subdivided in spermatocyte and classic. In classic seminoma, the most frequent metastasis is retroperitoneal associated with lymphadenopathy.

Case Presentation: We present a case of a 19-year-old boy relating lower back pain that radiated to the left scrotum, for 5 days. During this period, the patient took usual painkillers and opioids, but it was not enough to relieve his pain. He also had an hematuria crisis, which lead him to search a hospital. The presented signs and symptoms prompted the physician to suspect nephrolithiasis.

Diagnostic and Therapeutic Focus and Assessment: After clinical suspicion, it was performed a computed tomography (CT) of the abdomen that showed a tumor occupying the left part of the retroperitoneal space with 8,2x7,4x6 cm – ruling out the hypothesis of nephrolithiasis and suggesting a lymphoproliferative disease. Due to the results of CT the doctors requested a PET-CT, resulting in increased metabolism in the retroperitoneal region and the right testicle. Considering this information, the lymphoproliferative disease was discarded. The medical specialists felt the need for an ultrasonography; the exam showed left testicular microlithiasis, leading to the suspicion of testicular tumor and retroperitoneal metastasis. With this in mind, it was requested an orchiectomy with therapeutic and diagnostic function. Histopathology revealed classic seminoma (100%). Furthermore, adjuvant
chemotherapy – bleomycin, etoposide and cisplatin (BEP) scheme - was performed in order to treat the retroperitoneal metastasis.

**Follow-Up and Outcomes:** After nine cycles of chemotherapy, it was performed a CT and a PET-CT. The exams showed that the patient responded well to the treatment, without any traces of increased metabolism in the retroperitoneal region. The patient was put in a monitoring system, which consisted of CT and biochemical analysis, following two different standards. The CT needs to be performed twice a year, in the first four years of treatment, and in the last year, only once. Meanwhile, the tumor markers follow a gradual pattern: in the first and second year the exams are conducted in quarterly cycles; during the third year, they are checked three times; in the fourth year, the cycle have become biannual and in the fifth year the exams are performed only once. Nowadays, the patient is 21-years-old and he is in the second year of monitoring with medical specialists - oncologist and urologist. Until the last evaluation (June 2016) the tests reported no signs of abnormality.

**Discussion/Conclusion:** This case report is notable because shows data about classic seminoma and contributes with scientific community, considering that this theme is scarce in Brazilian literature. According to national studies, the case presents similarities in the epidemiological, clinical, diagnostic and therapeutic aspects. Clinically, the patient is insert in 10% of the cases, which manifests initially the signals and symptoms related to the metastasis - lower back pain. In the diagnostic aspect, other malignancies were supposed, but they were ruled out by the complementary exams; PET-CT was fundamental to exclude the suspicion of lymphoma, showing a malignant testicular mass, which was confirmed a seminoma by histopathologic and ultrasonography. In the therapeutic orientation, the conduct used with the patient agrees with the protocols, considering the stating and gravity. In reference to what was said, the PET-CT was essential to guide the diagnosis.
JUVENILE PARACOCCIDIOIDOMYCOSIS WITH EXCLUSIVE GANGLIONIC INVOLVEMENT IN AN IMMUNOCOMPETENT PATIENT. A CASE REPORT.

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Mentor name: Joaquim. LF; Silva, FL; Rossin, IR

Background/Introduction: Paracoccidioidomycosis (PB mycosis), or South American blastomycosis, is one of the main pulmonary mycoses found in Brazil and is mainly caused by Paracoccidioides brasiliensis. Even though it may be characterized by several medical conditions, it usually presents as a chronic respiratory infection. In this paper, we report the case of a young immunocompetent patient diagnosed with an acute or subacute ganglionic form of PB mycosis known as juvenile PB mycosis.

Objectives: We aimed to approach the differential diagnosis and to focus on the early treatment of PB mycosis, in order to avoid the evolution of such a condition to severe disseminated forms.

Methods: Data was obtained through the medical history and physical examination, as well as the complementary exam reports of a patient admitted to the Internal Medicine Infirmary of the Hospital Santa Casa de Misericórdia de Ribeirão Preto/SP. The following parameters were evaluated: biochemistry of blood, ELISA Anti-HIV, immunoelectrophoretic assay (IEA) for fungi, chest radiography, chest and abdomen computerized tomography (CT), and occipital lymph node biopsy for histopathological analysis.

Results: A previously healthy 19 yr-old man has complained of a painfully growth of the right retroauricular lymph node for 3 months, associated to 10 Kg weight loss, abdominal pain and augmented inguinal and right occipital lymph nodes as well. Physical examination revealed generalized lymphadenopathy with a large right occipital node, a painful abdominal palpation without tenderness, and a palpable mass in the epigastrium. Laboratory results: anemia and eosinophilia; negative ELISA for HIV antibodies. Chest X-ray was unchanged; chest CT showed bilateral axillary lymphadenopathy. Abdominal CT evidenced enlarged lymph nodes
in the mesenteric, paraaortic, right lateral aortic and inguinal chains, as well as small volume of ascites. Histopathologic analysis of the occipital lymph node showed chronic granulomatous inflammation with foci of necrosis, multinucleated giant cells and fungal structures, suggestive of PB mycosis. IEA for fungi resulted strongly reactant for PB mycosis.

**Discussion/Conclusion:** The first approach to the clinical problem was to consider either lymphoma, tuberculosis or PB mycosis as the possible diagnosis. The results confirmed the final diagnosis of PB mycosis. Although PB mycosis preferably leaves to a pulmonary involvement when in its chronic form, one might include it as a differential diagnosis in all cases of generalized lymphadenopathy, since up to 10% of its clinical settings evolve to acute or subacute ganglionic (juvenile) form. In fact, the involvement of several organs like liver, spleen, skin, bones and joints is common in the juvenile PB mycosis; however, the patient had an atypical presentation with the exclusive ganglionic involvement, suggesting that early diagnosis and treatment may have prevented the evolution of the disease to a more serious disseminated form.
MEDIASTINAL MASS AS LYMPHOMA INITIAL MANIFESTATION

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Mentor name: Cibele Repele Duch

Background/Introduction: Lymphomas are lymphocyte neoplasias that manifest through tumoral mass. Histologically it’s divided in Non-Hodgkin Lymphoma and Hodgkin Lymphoma. Lymphoblastic lymphomas, an aggressive type of Non Hodgkin Lymphoma, presents T-cell markers in more than 90% of cases and frequently are presented as a mediastinal mass. Though the majority of patients with lymphoma present disseminated disease at the moment of diagnosis, about 5 to 10% presents exclusive mediastinal disease.

Objectives: This article has as objective report the case of a 35 old patient, who initiated a mediastinal mass condition, which Immunohistochemical study concluded it was about a Lymphoblastic Lymphoma/Lymphoblastic Leukemia. Through presented information, the goal was describe the disease’s main characteristics, as the differential diagnosis importance of the mediastinal masses.

Methods: This study was conducted at the Hospital Santa Casa de Araraquara, which is located in Araraquara-SP, Brazil. At first, a patient record review was done to report the case. After this, a bibliographic research on national and international literature was started, comprehending case reports, review articles and original articles published in the last twenty one years (1995-2016), written in English, Portuguese and Spanish. The research was conducted between march 2016 and july 2016, at the PUBMED, SciELO - Scientific Electronic Library Online and LILACS – Latin American and Caribbean Health Sciences Literature sites. The used keywords was “lymphoma”, “mediastinal mass”, “lymphoblastic lymphoma”, “Non-Hodgkin lymphoma”, “linfoma linfoblástico”, “massa mediastinal”, “linfoma linfoblástico de células T”, “linfoma não Hodgkin”.

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**Results:** In this work we reported a T-cell Lymphoblastic Lymphoma (TLL) case in a patient who presented mediastinal mass and pleural effusion as clinical manifestations. The presence of tumoral mediastinal mass indicates thymus involvement and variate from 70%-100% of the cases, while the presence of pleural effusion may occur in up to 40% of TLL patients. Besides, the TLL usually is accompanied by cough and dyspnea that was noticed in the patient. The TLL may affect nodal and extra-nodal sites, which the most common is the bone marrow (BM) involvement that was present by the patient, confirmed trough bone marrow biopsy that showed approximately 30-35% of immature lymphocytes. Although usually diagnosed in advanced stages, the most of TLL patients presents favorable clinical evolution. In this case, the limiting clinical manifestations were because of respiratory conditions caused by the mediastinal mass.

**Discussion/Conclusion:** Studies by The Hematology American Society verified that the TLL patients with mediastinal mass had event-free survival (EFS) probability of 59%, while those without mediastinal disease presented EFS of 83%. The average EFS of TLL patients was 62%, while in the cases of BLL was of 100%, which indicates better prognostic to BLL when compared to TLL. This observations suggest that young patients, T-phenotype and mediastinal mass represents bad prognostic factors. Additional studies of Gustave Roussy Institute and Léon Bérard Center, suggest that BM involvement and increased lactate dehydrogenase levels are also related to a worse prognostic. Therefore we evidenced the importance of differential diagnosis of mediastinal masses and once the TLL is diagnosed, the treatment with aggressive chemotherapy regimens and programming for allogeneic bone marrow transplantation.
A RARE CASE OF NON-SECRETING MEDULLARY THYROID CARCINOMA - CASE REPORT AND LITERATURE REVIEW

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All co-authors names: Isadora Gonçalves Martins

Mentor name: Daniella Serafim Couto Vieira

Background/Introduction: Medullary thyroid carcinoma (MTC) is a neuroendocrine tumor, derived from the parafollicular cells of the thyroid. MTCs represent about 5% of malignant thyroid neoplasms. Like normal parafollicular cells, these tumors classically secrete calcitonin, whose plasma levels are used in the diagnosis and post-operative follow-up of patients. The majority of MTCs are sporadic. However, about 25 per cent have a familial characteristic as part of the multiple endocrine neoplasia type 2 (MEN2) syndrome.

Objectives: To describe a rare case of non-secreting medullary thyroid carcinoma and review the literature regarding MTCs characteristics and diagnosis.

Methods: This case report was written based on medical records review, photographic register of biopsy slides and immunohistochemistry (IHC) studies, as well as literature review.

Results: Case report: A 59-year-old man presented to consultation with compressive symptoms and a four-year history of nodular growth in his neck. He had no familial history of thyroid malignancy. On physical examination, he had high blood pressure (180/120 mmHg) and a large thyroid nodule. Ultrasound imaging showed a 6cm solid nodule in the right lobe of the thyroid. Fine needle aspirate (FNA) cytology detected a follicular neoplasm. Total thyroidectomy was performed. Pathology examination identified a multinodular right lobe, the biggest nodule of 10cm, and diagnosed Medullary Thyroid Carcinoma with IHC positive for carcinoembryonic antigen (CEA) and calcitonin. Control laboratory results were CEA 2.33 (<3), calcitonin <2 (<8,4), thyroglobulin 49 (3-40). He underwent radical neck dissection and 15 lymph nodes were positive for MTC with IHC positive for calcitonin. Imaging studies did not show distant metastasis. The result of RET proto-oncogene mutation testing is still unavailable.
Discussion/Conclusion: Sporadic MTCs account for about 75 per cent of cases and typically occurs in the fourth and sixth decades of life. The usual presentation is an isolated thyroid nodule. Diagnosis is usually through FNA cytology or pathology analysis after thyroidectomy. In most patients, at the time of diagnosis, the disease has already metastasized, most commonly to a cervical lymph node. Distant metastasis occurs in 5 to 10 percent of patients, and involves mostly the liver, lungs and bones. MTCs can secrete many substances, most commonly calcitonin and CEA, whose serum levels are used in the diagnosis and screening for metastasis post-surgery. In our patient, even though there were lymph nodes with MTC metastasis, calcitonin and CEA levels were normal, characterizing a rare case of non-secreting tumor. MTC can be part of MEN2 syndrome (2A or 2B), associated with germline mutations of RET proto-oncogene. Other types of RET mutations can also be present in sporadic MTCs.
PREVALENCE STUDY OF DEATHS IN THE ELDERLY BY SELF-EXTERMINATION ACCORDING TO SEX IN THE STATE OF GOIÁS

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Mentor name: Sandra Costa Prudente

Background/Introduction: The difference between gender in suicide among elderly is neglected. Suicide attempts from women superimpose when compared to men. Patriarchy submits women to gender inequality situations, culminating in various conditions of violence. While men are immersed in a reality which the work is seen as existential reference and honor is imperative. Both situations increase of comorbidities, "social disconnection", abandonment and worthlessness, providing a fertile environment for suicides.

Objectives: Expose the prevalence of deaths among the elderly by self extermination according to sex in the state of Goiás. In addition, conduct an evaluation of the results obtained in order to understand the landscape of deaths by suicide according to gender in this age group.

Methods: We conducted an epidemiological research with retrospective cross-sectional design compiled according to secondary data from the Health Information System (TABNET) registered in the Unified Health System’s (Sistema Único de Saúde-SUS) database platform from May 2011 to April 2016. The following filters were used, in order: Epidemiological Information and Morbidity; SUS’s hospital morbidity; External causes, according to hospital location from 2008; selection of the State of Goiás, selection of deaths by age range and by sex, selection of the group of causes CID-10: Y10-Y34 Events of undetermined intent. Initially the data from each month, according to gender, were collected by gathering the age range groups: from 60 to 64 years, 65 to 69 years, 70 to 74 years, 75 to 79 years, 80 years and above. Then it was elaborated a table of the general age group in which the rows described the sex and the column a period of 12 months.
Results: According to the information collected in DATASUS, from May 2011 to April 2016, there were about 112 deaths in the elderly by selfextermination in the state of Goiás. It was verified, in that same period, a high prevalence in males (64.28%) compared to females (35.71%), mainly in the age group of 80 years old or more. From May 2011 to April 2012, there were no reported cases of suicide in the population over 60 years. On the other hand, from May 2012 to April 2013 it was registered four deaths in men and one death in women, a total of five deaths (4.46%). From May 2013 to April 2014 the total amount of deaths by suicide in the elderly accounted for 25.89% and the following year, that number grew to 29.46%. It was observed with these data, a 90% increase in selfextermination by elderly deaths in the time interval of five years analyzed.

Discussion/Conclusion: The data obtained allowed us to observe a paradox as the “status” of suicide in the elderly, a situation already described in literature, and found again in this study related to the Goiás state's population. The results reflect the greater success that men get in attempts to suicide when compared to women of the same age. In general, this situation can be understood as a result of male participation at different manifestations of social violence, with regard mainly to the lethal self-harm. The self-inflicted death is an act that involves the subject, jeopardizing their conflicts, cultural, moral and emotional situation. Aspects that are overlooked in the elderly, it seems that they are seen as indifferent to the factors that make life pleasurable. Therefore, society should look carefully for the deaths by suicide among the elderly, because it reflects a social dynamic that condemns the elderly, making them look dependent, worthless and consequently human beings with no taste for life.
RELATIONSHIP BETWEEN PLATELET AGGREGABILITY AND BLEEDING IN PATIENTS WITH ACUTE CORONARY SYNDROMES SUBMITTED TO SURGICAL CORONARY REVASCULARIZATION

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Mentor name: Nicolau, J.C.

Background/Introduction: In patients with acute coronary syndromes (ACS) submitted to coronary artery bypass graft (CABG), very little is known about the best cutoff of platelet aggregability (PA) in predicting blood transfusion, much less about its relationship with amount of bleeding.

Objectives: To analyze the relationship of platelet aggregability pattern with blood transfusion and amount of bleeding in patients with ACS submitted to CABG.

Methods: This is a post-hoc analysis of an ongoing prospective and randomized study that is analyzing the safety of using PA parameters to schedule the date of surgery after anti-ADP antiplatelet withdraw. Sixty-nine patients with ACS (23.2% ST-elevation ACS, 76.8% non-ST-elevation ACS, median age 62 years, 69.6% men), were included in the present analysis. PA was analyzed in a routine basis immediately before CABG, utilizing the Multiplate® device. The amount of bleeding was evaluated by chest tube drainage in the first 24 hours post-CABG. All patients were using chronically aspirin 100mg/day, including at the day of surgery; all utilized dual antiplatelet from hospital arrival until the decision for surgery; the anti-ADP was withdrawn in a median time of 5.3 days before surgery. Chi-square and t-Student or Mann-Whitney tests were utilized as indicated in order to analyze the relationship between the variables of interest. ROC curves were constructed in order to calculate the predictive value and the best cutoff of PA regarding blood transfusion.
Results: 1) Regarding the value of PA in predict blood transfusion (Figure), its area under the curve was 0.73 + 0.086 (P=0.008). The best correlation between PA and transfusion was obtained at the cutoff of 62.5 AUC (sensitivity 80%, specificity 68.5%); the transfusion rate was 7.5% for patients with PA > 62.5 AUC and 41.4% for those with PA <62.5 AUC (P=0.001); 2) For patients with PA < 62.5 AUC and > 62.5 AUC, the mean value of chest tube drainage were, respectively, 447.2 + 259.4 mL and 330.6 + 195.2 mL (P=0.046, 95% CI for the difference 2.28 to 7.29).

Discussion/Conclusion: In this study, PA measured by Multiplate® immediately before surgery was a good predictor of blood transfusion during CABG, and the cutoff of 62.5 AUC correlated significantly with chest-tube drainage in the following 24 hours post-surgery. Our results suggest that PA could be a valuable tool in patients submitted to CABG.
PREVENTION OF MYOCARDIAL REPERFUSION INJURY IN A RAT MODEL OF ACUTE MYOCARDIAL INFARCTION THROUGH THE ANTIOXIDANT N-ACETYLCYSTEINE.

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Mentor name: Rodrigo, R.

Background/Introduction: Acute myocardial infarction (AMI) is the leading cause of death worldwide. Gold standard for the treatment is early restoration of coronary flow by percutaneous coronary angioplasty (PCA). Paradoxically, the sudden oxygen supply to the previously ischemic tissue triggers a burst in the production of reactive oxygen species (ROS), thereby generating myocardial reperfusion injury (MRI) by oxidative stress. Therefore it seems reasonable to counteract MRI by antioxidant therapy. N-acetylcysteine (NAC) has been used against oxidative stress in clinical settings.

Objectives: General Objective: To prevent myocardial reperfusion damage by using NAC in a rat model of ischemia reperfusion.

Specific objectives: To determine infarct size in a rat model of retrograde perfusion (Langendorff) after administration of different concentrations of NAC during reperfusion. Compare the infarct size of 2 different concentrations of NAC administered during reperfusion.

Methods: This is an experimental study performed in male Sprague-Dawley rat isolated hearts. A protocol of myocardial ischemia reperfusion was performed in groups of retrograde perfused hearts by Langendorff technique with increasing concentrations of NAC administered from onset of reperfusion. Control group received NaCl solution of the same osmolarity. The infarct size was determined by measuring the ration between infarcted myocardium area and total myocardium area. Data analysis was performed using Mann-Whitney U-test, p < 0.05.
Results: NAC administration was able to reduce infarct size compared to the control group. Unexpectedly, perfusion with NAC at a concentration of 0.1 mM was more effective than the concentration of 1 mM in reducing infarct size. All these results were statistically significant.

Discussion/Conclusion: Prophylactic therapy with NAC during reperfusion reduced infarct size. Studies involving functional and other clinical parameters should be developed to investigate further benefits of this therapy.
THE HARM OF FLUID THERAPY IN SEPSIS SHOCK

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All co-authors names: Perin, P. O. L.

Mentor name: Perin, P. O. L.

Background/Introduction: Fluid administration is a life-saving intervention in severe hypovolemic and sepsis shock. Fast correction of fluid deficit prevents the critical decrease of oxygen delivery, reduces the severity of multiple organ dysfunctions, the incidence of adverse effects.

However, it can also exert adverse and potentially life-threatening effects. The most common type of hypoxia in the intensive care unit (ICU), distributive shock, can be associated with global increased permeability syndrome (GIPS).

Objectives: Reviewing articles about fluid therapy in septic shock, focusing on its harm.

Methods: It was reviewed relevant articles from January 2014 to July 2016, in Portuguese and English language.

The terms in our search were: fluid therapy, humans, cardiac output, shock, acute kidney injury, resuscitation, sepsis, mortality

Results: We have founded 8 articles, showing that fluid extravasation may lead the following consequences:

In the lungs, pulmonary edema, impairing gas exchange, reducing lung compliance, increasing the work of breathing, predisposing to acute lung injury/acute respiratory distress syndrome.

In tissues, impairs oxygen and metabolite diffusion, distorts its architecture, impedes capillary blood flow and lymphatic drainage; conducting to progressive organ dysfunction, predominant in encapsulated organs, such as the liver (causing hepatic congestion and cholestasis) and kidneys (causing acute kidney injury). Results also in myocardial dysfunction common in critically ill patients and malabsorption, ileus and bacterial translocation.
**Discussion/Conclusion:** The aim of the fluid load is to raising cardiac output and oxygen delivery in patients with hypoxia. However, in distributive shock associated with GIPS, targeting “normal” preload and cardiac index can result in life-threatening complications. Sepsis increase production of nitric oxide, active KATP channels and decrease vasopressin, leading to vasodilation. Furthermore, shed the endothelial glycocalyx and cause paracellular leak, increasing endothelial permeability. Aggressive fluid resuscitation increase microcirculatory hydrostatic pressure and, cardiac filling pressure, which release natriuretic peptides, causing vasodilatation, cleft off the endothelial glycocalyx and reduce lymphatic drainage. Therefore, sepsis and aggressive fluid therapy act synergistically increasing fluid extravasation. Although fluid therapy is largely used in the ICU, its potential harm is a factor to be considerate before using it in an indiscriminate way.
SYMPTOMATIC INTRACRANIAL ATEROSCLEROSIS PREVALENCE IN PATIENTS WITH ISQUEMIC STROKE IN PATIENTS DISCHARGED FROM HOSPITAL BARROS LUCO TRUDEAU

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Mentor name: Eloy Mansilla

Background/Introduction: Symptomatic intracranial aterosclerosis (SIA) is a potential source of acute cerebral ischemia (ACI) that carries a high risk of recurrent stroke. There is limited data available of its prevalence in the world, and none in Chile. We conducted a prospective, unicenter Transcranial Doppler (TCD) sonography study to document the prevalence of SIA in patients hospitalized with symptoms of ACI in the neurology service of Barros Luco Trudeau’s Hospital.

Objectives: To determine the prevalence of SIA in patients hospitalized with ACI.

Methods: For this study were considered patients admitted at Barros Luco-Trudeau’s Hospital’s neurology service during the period between April 18th and June 10th of 2016 diagnosed with isquemic stroke, and which presented trans-temporal window for TCD evaluation. In said group clinical information was collected along with the evaluation by TCD to determine the presence of stenosis in the intracranial vessels. This data was registered in an anonymized data base, which was then used to obtain the results of the study. Patients excluded from the study correspond to those who had no trans-temporal window.

Results: A total of 88 patients were hospitalized with acute cerebral ischemia during the study period. The patients who were not evaluated by TCD were excluded, yielding a total of 64 patients, of whom 16 had no trans-temporal window. The presence of stenosis was detected in 9 patients, yielding a prevalence of 18.36%, showing a different condition between the vessels, being more frequent in proximal middle cerebral artery (66%), posterior cerebral artery (44%) and anterior cerebral artery (33%).
Discussion/Conclusion: The study shows a significant prevalence of SIA in patients hospitalized for ischemic stroke. These findings suggest to deepen the study of this disease in Chilean patients with stroke, in order to show the medical community how important it is, and to plan prevention strategies that could be applied by the authorities in country-long health programs.
TRANS-TEMPORAL WINDOW PREVALENCE FOR TRANSCRANIAL DOPPLER STUDY AMONG PATIENTS SUFFERING SYMPTOMS OF ACUTE CEREBRAL ISCHEMIA ADMITTED IN THE NEUROLOGY SERVICE OF BARROS LUCO TRUDEAU’S HOSPITAL.

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Background/Introduction: Transcranial Doppler (TCD) sonography is a safe, noninvasive and relatively inexpensive test that evaluates the circulation in the intracranial vessels in real time, providing immediate information for the physician. It also doesn’t require much cooperation from the patient, making it useful when treating patients suffering stroke symptoms. To be performed it requires the patient to have a trans-temporal window that allows the ultrasound to be correctly sent and read by the equipment.

Objectives: To determine the prevalence of the transcranial window among patients going through acute cerebral ischemic symptoms, and thus validating the use of the TCD in these patients as a faster and more economic method to study their disease, determine its probable cause and then propose a course of treatment.

Methods: For this study were selected patients that were undergoing symptoms of acute cerebral ischemia, and that were admitted in the Neurology service of the Barros Luco Trudeau’s Hospital (BLTH) between April 18th and June 10th of 2016. They were examined to determine if they had a trans-temporal window in which to perform the TCD that would determine flow anomalies in the intracranial vessels. Patients that had trans-temporal window were studied using TCD, and those that didn’t were examined for sub-occipital window.

Results: A total of 65 patients were studied that presented acute cerebral ischemia symptoms and that were admitted to BLTH. Of those, 49 (75.38%) had trans-temporal window in which it was possible to perform a TCD to study the cause of their symptoms.
Discussion/Conclusion: The study of patients with acute cerebral ischemia is currently made with cerebral angiography, magnetic resonance angiography or computed tomography angiography, but all these options are far more invasive, expensive and time-consuming than TCD, giving it an advantage regarding its potential use in patients with acute cerebral ischemia. This makes it relevant to determine the prevalence of trans-temporal window in these patients, because it is absolutely necessary to perform said test.
MACROPHAGE POLARIZATION AND OBESITY COMPLICATIONS: WHAT WE CAN LEARN FROM EXPERIMENTAL STUDIES

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Mentor name: Heraldo P. Souza

Background/Introduction: Obesity is widely recognized as a major contributing factor to the development of several diseases. There is plenty of clinical and epidemiological evidence of this relationship in diseases such as type 2 diabetes, dyslipidemias and cardiovascular syndromes. In other situations, like cancer and dementia, for example, evidences are more scarce and questionable. As a consequence, vital resources have been allocated to treat these maladies, that, ultimately, have obesity as one of the main causes for their development. In recent years, much interest has been directed to the relationship between obesity and systemic inflammation. Clinical and experimental evidences pointed to the role of immune cells and inflammatory mediators on the development of diseases in obese patients. It has been proposed that some of the aforementioned diseases appear in patients with high levels of inflammatory circulating markers.

Objectives: Therefore, it is our objective to explore experimental studies that approach the relationship between the different types of inflammatory reaction inside the adipose tissue, particularly the macrophage polarization and the development of obesity complications. Further, we intend to speculate how to translate this knowledge, obtained from experimental studies, to treatments applicable to the human diseases.

Methods: In order to search for the proposed theme, one database was used (PubMed), accessed on December 15th, 2015. The key terms were “obesity”, “macrophage” and “polarization”.

Results: After applying the filters "Language - English" and "Species - Animals", we arrived to 90 references. Sixty-two 62 articles were excluded because were not related to the main
objective of our review, or for being reviews themselves. We arrived at 28 articles, that were read and resumed by the authors. In further discussions, these articles were divided in four topics: the role of inflammation on the genesis of clinical complications of obesity; the role of macrophage polarization on this phenomenon; the signaling pathways and mediators responsible for polarizing macrophages in obesity and how to shift macrophage polarization inside the adipose tissue. Results in experimental models of obesity pointed a relevant correlation between the macrophage polarization to a type 1 response (M1) inside white adipose tissue and the development of insulin resistance, diabetes and other complications of obesity.

Discussion/Conclusion: Several articles report strategies to shift to a type 2 phenotype (M2), using drugs or lifestyle changes. How these findings could be translated to new human treatments is still an open question that only well designed researches could answer.
EFFECTIVENESS OF ORAL APPLIANCE IN SUSTAINED ATTENTION, SLEEP QUALITY AND QUALITY OF LIFE OF UPPER AIRWAY RESISTANCE SYNDROME: PRELIMINARY RESULTS

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Mentor name: Sonia Maria Togeiro

Background/Introduction: Upper Airway Resistance Syndrome (UARS) is a sleep disorder characterized by repeated episodes of increased respiratory efforts during sleep. It leads to nocturnal arousals, daytime sleepiness and fatigue. There are few studies about UARS and its treatment is not yet well established.

Objectives: To evaluate the quality of sleep, and the sustained attention of patients with UARS and to compare their results before and after a six month of oral appliance treatment.

Methods: A preliminary controlled randomized double blind placebo clinical trial was performed in 20 UARS patients. Inclusion criteria were: both genders; Body Mass Index (BMI) less than 35Kg/m2; age varying from 25 to 55 years old; clinical and polysomnographic of UARS (AHI d 5/h and RDI > 5/h and/or inspiratory flow limitaton > 30% of total sleep time, associated to daytime sleepiness and/or fatigue complaints. Patients were randomized in 2 groups (oral appliance and placebo) and answered Epworth Sleepiness Scale (ESS), Modified Fatigue Impact Scale (MFIS), Pittsburgh Sleep Quality Index (PSQI) and Functional Outcomes Sleep Questionnaire (FOSQ). Moreover, they were submitted to Psychomotor Vigilance Task (PVT) five times during the day each 2 hours. The results of both groups were compared after 6 months of treatment.

Results: From the 20 UARS patients studied, 8 composed placebo group and 12, oral appliance group. Mean age was 43.5 ± 8.4 years. There was a statistical significant difference in PSQI component 6 and in the total PSQI score when we compared the basal values with the 6-month
ones of both groups: there was an increase in placebo group scores (p = 0.01) and a significant decrease in oral appliance group results (p = 0.003). There were also better scores in some FOSQ subscales (general productivity, social outcome, activity level, intimate relationship and sexual activity) and in FOSQ total score after oral appliance treatment (p < 0.01). When we analyzed the PVT variables (mean reaction time, number of lapses, total errors and false starts) there was not a statistical significant difference when we compared the two groups’ results before and after 6-month treatment.

**Discussion/Conclusion:** Oral devices move the position of the mandible and tongue forward to decrease the chances of obstructing oropharynx. Patients with UARS present a narrow posterior airway space behind the base of the tongue. Based on imaging exams, oral devices have been shown to increase upper airway dimensions. That is because it works by maintaining the activity of the muscles, protracting the tongue and holding the mandible in an increased vertical and protrusive position. As a result, repeated increases in resistance to airflow within the upper airway seemed to be reduced. The preliminary results of this study suggest that oral appliance can improve sleep quality and quality of life after 6 months of treatment however without impact on cognition function (sustained attention) in UARS patients. In conclusion, the oral device improved the sleep quality and daytime dysfunction of UARS patients and may be an effective treatment option or Upper Airway Resistance Syndrome. Supported by AFIP, FAPESP and CNPq.
ATRIAL FIBRILLATION WITH CONDUCTION THROUGH ANOMALOUS PATHWAY (WOLFF-PARKINSON-WHITE)

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Mentor name: Gilmar Antônio Coelho Damin

Background/Introduction: The Atrial Fibrillation (AF) is a supraventricular arrhythmia in which a complete disorganization occurs in atrial electrical activity, causing the atria lose their ability to contract, not generating atrial systole. Most patients with AF have structural heart disease, including valvular diseases, heart failure, coronary artery disease, systemic arterial hypertension (SAH), hypertrophic cardiomyopathy, dilated cardiomyopathy and congenital heart disease. However, approximately 40% of cases of paroxysmal and 25% of persistent AF cases occur in young patients without demonstrable structural heart disease. In cases where accessory atrioventricular via is present, Wolff-Parkinson-White syndrome (WPW), in the presence of AF, atrial impulses are conducted quickly by the anomalous pathway, and may induce ventricular fibrillation (VF) and sudden death. In the case described below, the ablation of anomalous pathway reduced the risk of atrial fibrillation episodes and, consequently, the risk of sudden death.

Objectives: Explore de management of a white complex tachyarrhythmia.

Methods: Case Report: based on medical records and imaging tests

Results: Female, 44 years old, previously healthy, reports palpitation and sudden onset of dyspnea for approximately 10 hours, associated with general malaise and chest discomfort. Have never referred a similar episode. The patient reported being a former smoker (5 years / pack) and denies alcohol consumption or use of illegal drugs. Past medical history: denies diabetes, hypertension and dyslipidemia. Family history: denies sudden death in the family, hypertensive and dyslipidemic father, hypertensive mother and 2 hypertensive brothers. The
examination is presented lucid, oriented, pale, slightly dyspneic, cardiac auscultation with tachycardia and irregular rhythm, threadlike pulse, HR = 202bpm, BP = 97x76mmHg, auscultation without adventitious sounds, SpO2 97% in room air, Glasgow Coma Scale 15. Electrocardiogram (ECG): tachycardia with wide QRS complex (> 120 ms) with high ventricular response and irregular rhythm (R-R irregular). As treatment was prescribed 300mg of Amiodarone in 30minutes and volume expansion of 1500ml (0.9% NaCl), evolving without electrocardiographic response and hemodynamic instability. Then, electrical cardioversion was opted for and performed successfully with reversion to sinus rhythm with short PR interval and presence of delta wave (Wolff-Parkinson-White Syndrome).

The patient was referred for electrophysiological study (EPS) and radiofrequency ablation of left-lateral accessory pathway successfully on 24/05/16 (disappearance of the delta wave in ECG), healed, asymptomatic and without medications.

**Discussion/Conclusion:** The EPS is a percutaneous and invasive procedure, through catheter under local anesthesia, which are introduced venous or arterial route (jugular and femoral) in the right heart chambers and / or left and performed intracavitary electrical mapping to locate arrhythmogenic foci and application radio frequency for curative therapy. Invasive cardiac electrophysiology provided advances in knowledge of arrhythmogenic mechanisms and the safe and definitive treatment with evident improvement in the quality of life of patients.
EVALUATION OF SLEEP COMPLAINTS IN BRAZILIAN INDIVIDUALS WITH OBSTRUCTIVE SLEEP APNEA - (SLEEP APNEA GENETICS INTERNATIONAL CONSORTIUM)

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Mentor name: Oliveira e Silva L.

Background/Introduction: The Obstructive Sleep Apnea Syndrome (OSA) is a prevalent condition associated with harmful consequences to health. It is a complex disease which has diverse pathophysiological factors and clinical manifestation with wide phenotypical variability.

Objectives: Evaluate the main sleep complaints and symptoms in a sample of brazilian patients of São Paulo with Obstructive Sleep Apnea (OSA)

Methods: The patients were recruited at the AFIP UNIFESP Sleep Disorders Ambulatory. Inclusion Criteria: Both genders, ≥18 years old, with disposition and able to give consent about their participation in the research.

The patients answered questionnaires about habits and sleep complaints. Additionally, underwent through physical exam, polysomnography, and craniofacial morphometric analysis (standardized digital photos) and Computed Tomography (Cone Beam) in a subsample of patients. CEP: 569.928/2014; National Research Ethics Commission: 475.366/2013.

Statistical analysis

The data were analysed by SPSS software, version 19.0. Continuous variables were represented by mean and standard deviance; percentual and absolute frequency for categoric variables. Chi-square were used to evaluate the categorical variables and General Linear Model (GLM) test for continuous variables. The significance level used was \( \alpha < 0.05 \).
Results: 480 patients were evaluated. The average age was 47.00±13.18 years and 53.3% of the sample were represented by males (n=256), 58.5% (n=281) of the sample were diagnosed with OSA, of these 67.61% (n=190) were males. According to classification of OSA: 27.2% (n=99) were diagnosed with severe OSA (IAH > 30), 13.1% (n=63) of moderate degree e 121 volunteers (25.2%) with mild OSA. 199 volunteers, of this analyzed subsample (41.5%) were individuals with OSA (IAH < 5 events/h), which were included in the control group.

Sample description data: age (years): Control Group: 43.54±13.16 versus OSA Group: 49.50±12.64(p<0.001); IAH: Control group: 1.50±1.38 versus OSA Group: 24.61 ± 24.43 events/h. In main complaints of sleep disorders, a greater perception of frequent awakenings in the OSA group: control group: 27.7% (n=36) versus 38.67% (n=70), p = 0.04 and higher perception of teeth clenching was in control group 48.8% (n=62) versus 33.3% (n=60) of the OSA group, significant difference.

Discussion/Conclusion: In the partial analysis of the data, there was association between the symptoms and the complaints of other sleep disorders associated with OSA.
CHALLENGING DIAGNOSIS OF CONGESTIVE HEART FAILURE IN WHEELCHAIR USER: A CASE REPORT

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Background/Introduction: Heart failure is a major public health issue which present high mortality rates. The Brazilian Cardiology Society believes the heart failure statistics to be underestimated due to an association of underreported data and difficult diagnosis of specific populations. Among these populations, there are wheelchair users with myopathy. Although cardiomyopathy is frequently associated with other youth myopathies, according to literature, its association with congenital fiber type disproportion is rare.

Objectives: A 22-year-old male wheelchair user with congenital fiber type disproportion was admitted to the gastroenterology outpatient department due to nausea and vomiting after liquid intake. Physical examination revealed dyspnea and abdominal distension, and therefore upper gastrointestinal endoscopy was not performed.

Methods: A chest radiograph taken at presentation showed lower right lobe infiltration, ipsilateral pleural effusion and an increased cardiothoracic ratio which was indicative of cardiomegaly. An echocardiogram from last month brought by the patient showed preserved ejection fraction (59%) and mild mitral insufficiency. A clinical diagnosis of heart failure was made based on one major and two minor Framingham criteria.

Results: On subsequent weeks, a new echocardiogram demonstrated global systolic dysfunction of left and right ventricles, low ejection fraction (40%), pulmonary artery hypertension (estimated PASP = 40 mmHg), bialtrial enlargement and inferior vena cava congestion. Pharmacological therapy was initiated with Furosemide and Captopril. After two weeks, a new echocardiogram showed worsened ejection fraction (13%), severe global systolic dysfunction of the left ventricle with diffuse hypokinesis and estimated PASP = 53 mmHg. A
cardiac Magnetic Resonance Imaging exam suggested Myocarditis. On follow-up he had ascitis, pericardial effusion, high uric acidemia and atrial fibrillation with slow ventricular response, for which he was treated with Warfarin, Furosemide, Losartan, Bisoprolol, Spironolactone, Alopurinol and albumin supplement. His clinical condition improved and an ecoardiogram 6 months later demonstrated an ejection fraction of 41%, moderate systolic dysfunction of both ventricles and an estimated PASP of 38 mmHg. He is currently under treatment for chronic heart failure.

**Discussion/Conclusion:** This case highlights the importance of a detailed clinical evaluation in wheelchair patients. Congenital fiber type disproportion patients deserve special attention since the tendency towards sedentary lifestyle delays the onset of heart failure symptoms and consequently hinders diagnosis.
REDDUCTION OF THE INFARCT SIZE IN MURINE HEARTS AFTER THE
ADMINISTRATION OF DEFEROXAMINE IN A LANGENDORFF
EXPERIMENTAL MODEL

Author name: Fournié, S

All co-authors names: Gárate, M., Castillo, G., González, J., Brito, R

Mentor name: Rodrigo, R.

Background/Introduction: Acute myocardial infarction (AMI) is the leading cause of death worldwide. The reperfusion therapy, specifically percutaneous coronary angioplasty (PCA), is the main tool in the management of acute myocardial infarction (AMI). However, sudden arrival of oxygen to the previously ischemic tissue and iron mobilization generates a large amount of reactive oxygen species (ROS) thus generating myocardial reperfusion injury (MRI). There have been several attempts to prevent MRI by using iron chelators, mainly with Deferoxamine (DFO). We hypothesize that DFO could prevent MRI in a isolated heart model.

Objectives: To determine the final infarct size in murine hearts submitted to myocardial ischemia administrating different DFO doses using Langendorff technique.

Methods: Sprague - Dawley male murines models of 250-300 grams were used in this study. The final infarct size was compared in hearts undergone ischemia followed by reperfusion using Langendorff technique. Isolated hearts were infused with different doses of DFO and then compared with the control. Infarct size was determined as percentage of total myocardial mass. Data analysis was performed using Mann-Whitney U-test, p < 0.05.

Results: Murine hearts perfused with DFO had significantly smaller infarct size compared with those perfused with inactive solution.

Discussion/Conclusion: These results suggest that the administration of DFO in patients with AMI undergoing PCA could reduce the final infarct size by reducing ROS that comes with the
iron mobilization in the MRI. Therefore, further studies involving other parameters and clinical outcomes should be performed.
HYponatremia in marathon runners

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Mentor name: Lucia Andrade

Background/Introduction: The marathon is one of the most grueling sports. There in marathons occurrence of electrolyte disturbances. Thus, the hydration of athletes became a staff of great importance. This study addresses the association of fluid intake and hyponatremia associated with exercise (EAH). We also study the pathophysiology and risk factors for EAH.

Objectives: The aim of our study is to perform a systematic review of the literature to analyze risk factors for the development of EAH, to evaluate the clinical characteristics of hyponatremia in marathon runners, and to identify the possible mechanisms of prevention.

Methods: Systematic search on Pubmed, SciELO, and LILACS, from 1980 to 2015. With the terms: Hyponatremia and marathon, runner and hyponatremia, water intoxication and marathon, water intoxication and endurance exercise, hyponatremia and exercise. Exclusion criteria: not have the keywords in the article; not related to the subject title; no articles written in Portuguese or English.

Results: 98 articles were selected. During exercise there is release of anti-diuretic hormone that leads to increased water reabsorption by the collecting duct. The sweat production leads to loss of salt and water. Factors associated with the induction of EAH: weight gain during the race; It takes more than 4 hours to complete the race; body mass index greater or lesser than the average; anti-inflammatory use and being female. There was an association between fluid intake and incidence of EAH. The incidence of EAH has increased over the years due to the strong recommendation to drink plenty of fluids during and after marathons.

Discussion/Conclusion: New studies and recommendations should be made to clarify the type and how much fluid should be ingested by race.
IDIOPATHIC PULMONARY ARTERIAL HYPERTENSION IN 53 YEARS OLD WOMAN. CASE REPORT WITH AUTOPSY.

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Background/Introduction: The Pulmonary Arterial Hypertension (PAH) is a haemodynamic state defined by a Pulmonary Arterial mean pressure ≥ 25 mmHg at rest and a pulmonary capillary wedge pressure ≤ 15 mmHg. Being a haemodynamic measure, this pattern may have a number of etiopathetic mechanisms. The Idiopathic Pulmonary Arterial Hypertension (IPAH) is a diagnosis made by exclusion of other possibilities like hereditary disorder, cardiac, pulmonary and auto-immune diseases, as well as other causes according to the European guidelines for PH.

Objectives: To document a case of idiopathic pulmonary arterial hypertension with severe arteriopathy and 2 years progression, since the prevalence for the PAH and IPAH are 15 and 5,9 cases per million adult population, respectively. The incidence reaches 2,4 cases per million adult population per year.

Methods: Clinical History: Woman, 53 years old, 2 years before her death began with symptoms of progressive dyspnea, first at moderate exertion. Physical exam showed signs of right cardiac failure.

The electrocardiogram showed signs of right chambers overload, the ecocardiogram confirmed the hypothesis of pulmonary hypertension, with a pulmonary arterial systolic pressure of 87 mmHg. The patient’s right chambers cateterism revealed a pulmonary arterial pressure of 93 mmHg and a pulmonary capillary wedge pressure below 15 mmHg.

Serologies for hepatites B and C, HIV, schistosomiasis were requested, as well as the determination of egg load and search for auto immune diseases, all with a negative result. In moreover, drugs and toxins use, portal hypertension, pulmonary diseases, chronic pulmonary
thrombotic/embolic disease or other causes of pulmonary hypertension associated diseases were ruled out. Patient presented some haemodynamic improvement with sildenafil, since she didn’t need any more hospitalization for 6 months. However, after this period patient presented with septic and cardiogenic shock due to cellulitis infection in her both lower limbs leading to haemodynamic decompensation and death.

**Results:** Autopsy realized 6 hours after death. All organs were removed and processed according to the consecrated autopsy techniques. After 48 hours of fixation with formalin 10%, fragments were produced and a hystopathological study with optical microscopy in hematoxilina and eosina was realized. Autopsy showed cardiomegaly due to right atrial and ventricule enlargement, microscopic examination revealed pulmonary arteriopathy level IV (plexogenic) and level V (angiomatoid). Therefore, through the clinical investigation of the Pulmonary Hypertension aetiology, anatomic and pathological findings the IPAH diagnosis was made, although no genetic study was realized.

**Discussion/Conclusion:** This case allows us a correlation between the arteriopathy degree found in the autopsy, the pressure levels in the pulmonary artery, pulmonary capilars and this patient’s life expectancy.

In addition, there was also an agreement between the physical and complementary exams and the arteriopathy levels in a number of small fragments.

Reports show that this correlation isn’t always present, mainly because of the haemodynamic conditions in each case. However, the microscopic study must be highlighted as a way of realizing a much more detailed evaluation of the pulmonary small arteries and arterioles.

High risk patients have a estimated mortality ≥ 10% in 1 year. Nevertheless, this patient survived for 2 years after the first symptoms appeared. This patient presented a life quality improvement for 6 months after introducing Sildenafil. Although the vasoreactivity test wasn’t realized, vasodilators can be used in non-reactive patients according to the mortality risk.
In 4 randomized studies, there has been symptoms improvement as well as in the haemodynamic pattern. Likewise, it’s hard to affirmate that the arteriopathy levels are good indicators for vasodilators use.
ANALYSIS OF SCORES OF THE MINI MENTAL STATE EXAMINATION OF ELDERLY PATIENTS IN OUTPATIENT CLINIC

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Mentor name: Rita de Cassia Helu Mendonça Ribeiro

Background/Introduction: The mini-mental state examination (MMSE) rate the cognitive impairment and helps in the tracking of dementia. Elderly have a decline on the cognitive function, therefore it is important to evaluate the results of this test in first visit, to improve the targeting of patients.

Objectives: The purpose of this study was to assess patients elderly in outpatient treatment.

Methods: The study was carried out from the database in the form of spreadsheet for the General Outpatient Clinic and Specialty Hospital of Base of São José do Rio Preto, being a qualitative and descriptive study.

The Mini-mental state test was used, it below evaluate the cognitive function like orientation, immediate and recent memory, calculate, language and constructive capacitive, the point consisted in scale 0 to 30, closer 0 represents the more cognitive decline.

Results: The study was realized with 229 elderly was attended in Outpatient Clinic of Hospital de Base, 9% was not informed. The age of 80 years was the predominant, representing 41% the total. The women was 55%, they was the majority in gender.

The MMSE showed the results, 8.7% have results below 9, what represents several cognitive dysfunction. The 45.8% of the patients obtained results between 10 and 20, what represents moderate cognitive decline. And 28.3% has mild decline cognitive function, with results 21 till 26. Only 4.8% has normal cognitive function.
The temporal orientation 36% of the patients obtained best results, they could be localized the year, semester, month, day and week-day. The spatial orientation was found the 43% could be localized where they are. The language was good results also so, 82.5% have the best results.

**Discussion/Conclusion:** In the first visit majority of the patients showed cognitive decline. The MMSE demonstrates patients with mild and moderate cognitive decline, despite the good results obtained in isolated criteria such as language, temporal orientation and spatial orientation. That way, when patients seeking for treatment they already have cognitive damage, which can cause daily losses in these patients. Thus, it is necessary to the continuation of the treatment and intervention of the way of life. The preventive treatment is recommended for those with no or mild cognitive changes.
Y ELDERLY PATIENTS

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Background/Introduction: The American College of Cardiology recommends that statin therapy should be administered cautiously in very elderly patients, those that have more than 75 years. [1] Meta-analyses from randomized clinical trials of statin therapy demonstrated consistent reductions in cardiovascular events regardless of the patient’s age. [2],[3] A Cochrane review found evidence that statin over a wide age range, to be safe and effective. [4] In spite of the reduced number of randomized clinical trials involving statin treatment in very elderly patients there is a consensus between cardiologists assuring the benefits brought by such treatment, a better prognosis of the atherosclerotic disease as well as an increasing lifespan of patients. The higher prevalence of atherosclerotic disease is already known and because there is a world epidemiological trend towards greater longevity it is relevant to evaluate the efficacy and effectiveness of the hypolipemiant treatment with statins in this population.

Objectives: Assess the efficacy and safety of hypolipemiant treatment with statins in patients that are older than 75 years.

Methods: Patients were selected in the cardiology ambulatory while on treatment with statins (simvastatin or atorvastatin). They were divided in two groups: O and Y. The O group was composed by patients that had more than 75 years, group Y was composed of patients younger than 75. The following variables were studied in the groups: gender, coronary artery disease, cerebrovascular accident, chronic kidney disease, levels of creatine kinase, transaminases alanine transaminase (ALT), total cholesterol, fractions (LDL) and triglycerides.
Epidemiological and clinical data were obtained from medical records to obtain a transversal view through the SPSS version 16.0 for Windows software.

**Results:** Sample of 70 patients. 41% group O and 59% group Y. 55% were males.

The median levels of total cholesterol, triglycerides and LDL-c in both groups were respectively: \(164, 1\) and \(177, 9 (p=ns)\), \(124, 1\) and \(183, 2 (p=0,024)\) e \(83, 3\) e \(93, 7 (p=ns)\).

The presence of coronary artery disease, cerebrovascular accident and chronic kidney disease were respectively: \(51, 7\) % e \(75, 6\% (p=0,038)\), \(20, 6\)% e \(4, 8\% (p=0,041)\) e \(34, 4\)% e \(14, 6\% (p=0,051)\).

The dosage of simvastatin and atorvastatin were similar between the groups with \(p=ns\).

Median levels of alanine transaminase and creatine kinase were respectively: \(14, 4\) e \(20, 1 (p=0,002)\) 99, 6 and \(132, 2 (p=0,087)\).

**Discussion/Conclusion:** The treatment of very elderly patients with statins revealed itself as safe. There was no increase in the muscular or hepatic enzymes. The dosage of statins in the O group remained the same as group Y, despite the higher prevalence of chronic kidney disease. The treatment can be considered effective due to the lipid levels of group O were lower or equal to group Y.
TRANSIENT ISCHEMIC ATTACK IN A YOUNG PATIENT AFTER CANNABIS CONSUMPTION.

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Mentor name: Tolentino J.C.

Background/Introduction: The transient ischemic attack (TIA) is a temporary dysfunction of the brain without evidence of acute infarction. However, TIA to be a signal that the patient is at risk for a stroke. Several reports have suggested a causal role of cannabis in the development of the cerebrovascular disease. In many cases, patients had a cerebral ischemia during cannabis smoking. Multiple studies have reported adverse effects after of this recreational use. We will discuss these risks of acute brain damage.

Objectives: In addition to the potential damage possibility related to regular use of marijuana, various medical conditions can arise acutely after cannabis use. Among them are included psychiatric disorders and cerebrovascular events. Most of the related cases were a stroke. However, we describe a case of TIA in a young patient after smoking a cigarette of marijuana.

Methods: A 17-year-old white man has admitted to the emergency department in a hospital in Brazil, complaining of sudden onset left face and hemibody weakness, left hemianesthesia and dysarthria, that started around 50 minutes before his admission. This neurological event had begun between 30 and 40 minutes after had smoked a cigarette of marijuana. During admission, neurological examination returned to normal in twenty minutes. On cardiovascular examination, loud S1 and S2 were audible with no added sound. He had a regular pulse of 89 beats per minute with a blood pressure of 116/74 mmHg. His medical history was unremarkable. The patient did not take medications. He denied smoking and use of other illicit drugs. Lack of any cardiovascular risk factors. Family history was non-contributory.

Results: His laboratory studies including serum creatinine, blood urea nitrogen, electrolytes, complete blood count, liver function, and lipids were normal. Urine toxicologic screening was
strongly positive for cannabis and negative for cocaine and amphetamines. The 12-lead electrocardiogram revealed normal sinus rhythm and chest x-ray was normal. Thrombophilia, vasculitis, and autoimmune disorders screening were negative. Brain computed tomography, head magnetic resonance (MR) imaging, carotid Doppler ultrasound and MR angiography of the cerebral arterial vessels were unremarkable. Transthoracic echocardiogram (TTE) showed the regular size of all four chambers; normal left ventricular ejection fraction of 71%, normal diastolic function, minimal mitral regurgitation, and without abnormalities involving the interatrial septum. A transesophageal echocardiogram confirmed the TTE results and ruled out others cardioembolic sources.

**Discussion/Conclusion:** Previous studies have shown an association or even causal relationship between strokes and cannabis consumption, besides the documented vasogenic effect of marijuana. Additionally, marijuana diminishes the cerebral autoregulatory capacity. These dates support the arguments for cannabis as the cause of TIA in the case reported. Increased reporting of cardiovascular complications related to cannabis and their extreme seriousness as death indicates cannabis as a possible risk factor for cardiovascular disease. In the present case were investigated all other etiological causes of TIA and we found no change in exams performed during his hospitalization. In conclusion, this case showed that marijuana smoking might cause TIA in previously healthy young. General practitioners and medical students should be aware that cannabis may be a potential triggering factor for cerebrovascular complications in young people.
GENERALISED PRURITUS AND DIABETES MELLITUS: A LITERATURE REVIEW

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Background/Introduction: Diabetes mellitus is a chronic metabolic disease, characterized by hyperglycemia secondary to insulin deficiency or resistance. It is known to be associated with multiple cutaneous manifestations. Although localized pruritus, especially in the genital and perianal areas, seems to be more common in diabetics than in non-diabetic population, an association of diabetes and generalized pruritus (GP) is less clear. GP could be a devastating symptom with a profound negative impact on diabetic patient's quality of life.

Objectives: The objective of this study is to review the evidence of an association between generalized pruritus and diabetes mellitus. In addition we intended to evaluate whether this symptom was correlated with glucose levels or glycemic control.

Methods: Two authors have performed Scopus, Scielo, LILACS, EBSCO, Pubmed and Medline databases search. In order to capture studies that assessed GP in diabetic patients, including its correlation with glycemic levels, our search terms included “pruritus, “itch”, “diabetes”, "diabetic", "glucose intolerance" and “glycemic levels". Original articles in English, Portuguese, Spanish and French from 1948 to July 2016 were retrieved. Reference lists from the review articles retrieved were evaluated for additional original articles. Cochrane Database did not have any systematic review on this topic.

Results: Pruritus has been considered a cutaneous manifestation of DM for decades. Frequency of GP in diabetic patients is unpredictable. In one of the first studies evaluating this association, pruritus, generalized or localized, was reported to be present in one third of patients with diabetes. Literature review showed that the prevalence of GP in diabetic patients ranged from 4.5% to 60.2%. This frequency is not always significant when compared with the frequency of
GP in non-diabetic patients. In a small number of studies, pruritus was shown to improve with strict glycemic control. However, other studies could not reproduce these findings. Possible explanations for the occurrence of GP in diabetic patients include xerosis, adverse reaction to anti-diabetic drugs, poor glycemic control and damaged sensory c-fibers.

Discussion/Conclusion: Excess blood glucose is believed to deposit in the skin that would function as a reservoir, predisposing the patient with DM to a number of cutaneous manifestations, including pruritus. GP has been described as a symptom of advanced diabetes mellitus, being or not related to poorly controlled glycemic levels. However, this association is still controversial. This non-significant association could be explained by the paucity of studies and limited sample sizes. In addition, presence of comorbidities, use of multiple drugs and coexistence with inflammatory and infectious skin conditions may confound the evaluation a true association. In practice, initial approach includes careful examination to exclude an underlying dermatological or other systemic disorder as the cause of GP. Tailored laboratory evaluation should be performed, before considering the symptom to be a manifestation of diabetes itself. In order to demonstrate a true association and how to approach to this debilitating symptom, additional large population-based studies would be crucial.
SECONDARY PERITONEAL CARCINOMATISIS – CASE REPORT

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Background/Introduction: The ovary cancer has an impressive prevalence among women worldwide, mainly in the ones between 50-60 years old, but also can occur in the extreme ages. Different from other epithelial neoplasms, these tumors can despoil to the abdominal cavity, leading to symptoms associated with this behavior. Hematogenic and lymphatic disseminations are rare, and when occur lead to peritoneal carcinomatosis, which makes this case a remarkable and rare event in the population.

Objectives: This study aims to report the case of ascites caused by peritoneal carcinomatosis, in which the etiology is the ovary neoplasm.

Methods: The study is a case report from a Bonsucesso General Hospital’s patient. All the data were taken from the medical records of the patient who formally agreed to share the medical information in this case report.

Results: M.I.C., patiente of 75 years old, virgin, with 4 months abdominal pain, weight loss, anorexia, dyspnea and massive and progressive ascites. No improvement with the use of diuretics. Abdominal ultrasound showed ascites and vesicular cholesterolosis. Posterior pelvis and abdomen computerized tomography revealed a nodule in left ovary and showed suggestive images of peritoneal implants. MRI of the abdomen showed ascites associated with increased and heterogeneous pancreas omentum. Upper gastrointestinal endoscopy presenting hiatal hernia and antrum gastrits, no other changes. Paracentesis showed no presence of cancer cells. CEA laboratory tests and chest X-ray without changes. The CA 125 test showed a value of 9007 U/ml.
For proper investigation, the patient underwent laparoscopy and performed extraction of material for histopathological examination of ovarian injury and peritoneal implants. Histopathological examination revealed poorly differentiated carcinoma in both locations.

**Discussion/Conclusion:** Peritoneal carcinomatosis is a severe condition, rare, mainly secondary and its diagnosis has to be premature based on a good approach. The risk factors are associated to female gender, genetics, advanced age and diagnosis of ovary cancer. It has to be suspected even with the lack of previous oncological disease, because the majority of the cases are diagnosed at the same time with a primary neoplasm. The first choice treatment is usually the intravenous chemotherapy, although in some cases the best therapeutic approach is the cytoreductive surgery. In general, the palliative therapeutics is the chosen approach and life expectancy in these patients is not long.
PREVALENCE OF CARBAPENEM RESISTANT ENTEROBACTERIACEAE IN HOSPITAL MARIO CATARINO RIVAS DURING THE FIRST SEMESTER OF 2016

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Background/Introduction: The noticeable increase worldwide of Carbapenem Resistant Enterobacteriaceae had led to many health care facilities to adopt strict measures and active surveillance programs to stop wide spread and due to the lack of it on our country we decided to be pioneers and contribute strengthening our knowledge of this infections.

Objectives: Determine the prevalence of carbapenem resistant enterobacteriaceae during the first semester of 2016 at Hospital Nacional Mario Catarino Rivas, Determine the most frequent site CRE isolates are reported, Determine the the month with most outreach of CRE and the prevalence within the hospital's departments

Methods: Descriptive, long-term,prospective study done at Hospital Nacional Mario Catarino Rivas during the first semester of school 2016, using as source of information the microbiological daily registry and categorizing such data statistical measurements .Reported enterobacteriaceae were all measure its susceptibility with Imipenem and we're taken in consideration those isolates that met the phenotypic definition of CRE proposed by the current CLSI (Resistant to a carbapenem except ertapenem and proved resistant to 3rd generation cephalosporins).

Results: There were reported 696 enterobacterias 71 isolates met the phenotypic criteria of CRE.Among the CRE isolates the prevalence during the study time was the following:K.pneumoniaeae (3,02%), E.aglomerans (2,87%), and E. Coli(1,7%). The most frequent reported site of CRE isolates was urine cultures with 26 isolates (36.6%). The month with the most reported CRE was April (2,15%). In 8,2% the department from which the isolated was reported was unknown  followed up by Surgical Emergency (5,3%).
Discussion/Conclusion: Global prevalence could be close up to North America and South America according to studies done before, were K. pneumoniae leadership the CRE report. We know study our resistance mechanism to confirm carbapenemase genes. It's very important to strength statistical data and promote an active surveillance program.
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Background/Introduction: There is limited information on the relationship between metabolic syndrome (MetS) and chronic kidney disease (CKD) in the Iranian population, a group that has a high prevalence of CKD and obesity.

Objectives: The aim of present study was to determine the relationship between Mets and CKD in Boroujerd, west of Iran.

Methods: A total of 800 subjects aged >35 years from Boroujerd (west of Iran) 2011 to 2013 were enrolled in the study. Metabolic syndrome was defined based on ATP III criteria and CKD was defined from the K/DOQI practice guideline. Waist circumference and BMI were calculated. As well, blood samples were taken and Lipid profile, plasma glucose levels, and serum creatinine were measured. Data then analyzed with SPSS software.

Results: The frequency of CKD in patients with MetS was 14.8%. MetS was associated with an increased odds ratio for a GFR less than 60 mL/min per 1.73 m² (OR: 1.91; 95% CI 1.22-2.99; p=0.004). Individuals with 2, 3, 4 and 5 components of the MetS had an increased OR for CKD: 2.19 (95% CI, 0.95–3.62), 2.65 (95% CI, 1.03–4.71), 2.86 (95% CI, 1.08–5.53), and 5.03 (95% CI, 1.80–8.57), respectively, compared with individuals with none of the components.

Discussion/Conclusion: We found a high prevalence of CKD in patients with MetS compared with subject without MetS. Our observations raise major clinical and public health concerns in Iran, where both the metabolic syndrome and kidney disease are becoming common.
DIAGONAL EARLOBE CREASE AND CORONARY ARTERY DISEASE IN IRANIAN POPULATION: A MARKER FOR EVALUATING CORONARY RISK

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Background/Introduction: The diagonal earlobe crease (ELC) has been proposed to be a marker of coronary artery disease (CAD), but this association still remains controversial.

Objectives: The aim of the present study was to evaluate the frequency of diagonal earlobe crease in patients with coronary artery disease.

Methods: One hundred patients with angiographically documented CAD from Tehran Heart Center were evaluated for the presence or absence of earlobe crease. The earlobe crease was said to be present if a patient had a deep diagonal crease extending obliquely from the outer ear canal towards the border of the earlobe without discontinuity covering at least two-thirds of the ear lobe length.

Results: The prevalence of ELC was 62% (95% CI 59.7-64.6). The frequency of smoking and hyperlipidemia was significantly higher in patients with DELC (p=0.024 and p=0.001, respectively). But frequency of hypertension and diabetes were not significantly different between the two groups.

Discussion/Conclusion: The frequency of diagonal earlobe crease in patients with CAD was high in our study. The data suggest that the earlobe crease sign may be a useful marker for the presence of coronary artery disease in patients.
ADENOID CISTIC CARCINOMA OF THE NASOLACRIMAL DUCT - A CASE REPORT

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Mentor name: Alex Itar Ogawa

Background/Introduction: Adenoid cystic carcinoma (ACC) is a malignant tumor that represent 14,5% of the salivar gland tumors. 57,5 % appears at the parotid gland, followed by accessory glands and salivar accessory glands in adults. Tumors of the lacrimal drainage system frequently develop at lacrimal sac. A tumor at the nasolacrimal duct is very rare to occure. Histologically it is possible to observe cribiform, tubular and/or solid patterns. Surgical excision is the treatment of choice for ACC.

Objectives: To describe a very rare case of adenoid cystic carcinoma of the nasolacrimal duct and its evolution.

Methods: Clinical findings and Computed Tomographic Dacryocystography images were performed. The diagnosis was confirmed by histological and immunohistochemical study.

Results: This is a case report of a 71 years old woman with ACC of the nasolacrimal duct. She complained of pain in the left middle third of the face and epiphora of the left eye 2,5 years ago. She was treated with eye drops and Gabapentin for trigeminal neuralgia, at the time. As the symptoms persisted and she presented hyposmia and recurrent local pain, a Computed Tomographic Dacryocystography of the orbit and Computed tomography of the paranasal sinuses, were done and showed a mass at the lacrimal drainage system topography extending to the nasal cavity till the pterygopalatine fossa and orbital floor. An incisional endonasal endoscopic approach biopsy to distal portion of the nasolacrimal duct was performed and the lacrimal sac and the left maxillary sinus roof were not compromised. The histological findings revealed infiltration around the vessels, swiss cheese patter, and calcifications confirming the diagnosis of ACC. There are no metastasis until the present time.
Discussion/Conclusion: Nasolacrimal duct obstruction frequently occurs in elderly people, and most times it is caused by infections, traumas, or inflammations of eye or the nasal cavity. So, many patients go to the ophthalmologists complaining of epiphora, like our patient, and may receive diagnosis of nasolacrimal duct obstruction alone and conservative treatment with topical antibiotic eyedrops as tumors of the lacrimal drainage system are relatively rare, leading to delayed identification of the neoplasia. Two cases of nasolacrimal sac/duct ACC were described in 2014, and one case of a nasolacrimal duct ACC was reported in 2015. Our patient underwent a partial maxillectomy with orbital exenteration and radiotherapy.
TAKOTSUBO CARDIOMYOPATHY IN MEN WITH PANIC DISORDER: POSSIBLE ASSOCIATION BETWEEN STRESS CARDIOMYOPATHY AND PANIC ATTACK

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Mentor name: Tolentino C.J.

Background/Introduction: Takotsubo cardiomyopathy (TTC) or stress cardiomyopathy has been increasingly recognized along last two decades, but it is still a rare condition. TTC typically occurs in post-menopausal women after an acute episode of severe emotional or physical stress. Although previous studies suggest a higher prevalence of anxiety and depression among patients with TTC, it has not been established if exists an association between panic attack (PA) and TTC.

Objectives: The authors reported the case of a man who had to stress cardiomyopathy after a panic attack to demonstrate clinical relevance of the potential relationship between Takotsubo cardiomyopathy and panic disorder (PD)

Methods: A 52-year-old man diagnosed with PD suddenly presented symptoms suggestive of panic attack, no triggered by an acute physical or emotional stressor. The patient experienced partial improvement with the use of sublingual lorazepam. However, about 50 minutes after the peak of these symptoms he presented severe dyspnea and chest pain. He is an ex-smoker and takes losartan and atorvastatin. The patient had no diagnostic criteria for depression. He denies a history of alcohol or illicit drug use. He was admitted to the hospital with suspected acute coronary syndrome. On presentation, the patient was afebrile, hypotensive (88/54 mmHg), and had a heart rate of 95 beats/min, a respiratory rate of 28 breaths/min an oxygen saturation of 91%. Physical examination revealed a regular cardiac rhythm and S3 gallop. Pulmonary auscultation revealed diminished breath sounds with diffuse crackles throughout the posterior lung fields. No lower-extremity edema was noted.
Results: On admission, the electrocardiography revealed ST-segment elevation in D1 and aVL leads. Two sets of myocardial enzyme assays showed an increase in troponin I. The patient’s complete blood count and basic metabolic panel were all within the normal range. The patient was submitted to a cardiac catheterization. Left ventricle graphy revealed ballooning in the mid, distal and apical segments, with vigorous contraction of the basal segments, LV ejection fraction of 30% and no evidence of obstructive coronary artery disease (CAD), closing the diagnostic criteria for TTC. The patient was managed conservatively and his clinical condition improved within 48 hours. After five days, the LV was normal in the echocardiogram and cardiac magnetic resonance imaging. Follow-up echocardiography at four weeks revealed normal LV function. Within one year of clinical and psychiatric follow-up, the patient remained well, without other episodes of AP or cardiac symptoms.

Discussion/Conclusion: The most common presenting symptom of Takotsubo is acute chest pain and dyspnea similar to myocardial infarction (MI), as in the present case. PD is a highly prevalent debilitating anxiety disorder and cases of PA leading to MI in patients with no evidence of CAD have been reported. Although the epidemiological scope of the literature links PA with TTC, it was not shown that it could trigger TTC. However, in our case, the patient had TCC after an episode of PA without another possible triggering factor. In conclusion, TTC is a rare and potentially serious condition in man. This case report is consistent with other available evidence affirming the influence of stress through cardiovascular reactivity and pathophysiology of ACS. Further studies need to confirm if the association between TTC and PA is consistently present. If PA were confirmed as a potential trigger of TTC, it would be important to identify clearly and treat PD with a view to preventing the recurrence of panic attacks.
CLINICAL AND SOCIO-DEMOGRAPHIC CHARACTERIZATION OF ELDERLY PATIENTS HOSPITALIZED IN A TERTIARY HOSPITAL AND EVALUATED BY THE CONSULTATION-LIAISON PSYCHIATRIC SERVICE

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Background/Introduction: Elderly patients are more vulnerable to hospitalization and it is an impact on their health. Given the high prevalence of behavioral changes in this hospital population, the performance of the psychiatrist through Consultation-Liaison Psychiatric Service (CLPS) assume an important role. Few studies have evaluated the diagnoses of CLPS and its impact in hospitalized elderly population.

Objectives: This study aimed to characterize the clinical and socio-demographic profile of the elderly hospitalized, who required the CLPS, enabling the identification of these characteristics and clinical diseases.

Methods: We analyzed 204 CLPS requests in the Base Hospital of the Medical School of São José do Rio Preto (HB-FAMERP), a tertiary hospital, between 2010 and 2014, through semi-structured protocol.

Results: Most patients (42.16%) constitute of residents from the city of São José do Rio Preto. The mean age was of 70.27 years; 113 patients (55.39%) were female; 42.12% were married and 25.98% widowers. About education, 59.31% had incomplete primary education and 17.16% were illiterate. In terms of occupation, most patients did not work. Of these, 63.58% were retired; 26.63% were housewives and 4% unemployed. Catholics accounted for the majority (68.14%).

The evaluations were requested mostly by clinical medicine specialty (77.94%). Most patients were hospitalized due to cardiac (12.75%) and metabolical diseases (11.76%).
and eleven patients had past psychiatric history (54.41%) and of these, 30.63% required past hospitalization. The most frequent reasons for CLPS request were: difficulty in dealing with hospitalization (31.37%), psychomotor agitation (12.25%) and previous psychiatric illness (31.37%). Only 13.26% of patients had suicidal history. Among the psychiatric diagnoses concluded by the CLPS, depressive disorders were the most frequent (15.68%). Most patients evaluated by CLPS (67.65%) was treated with medications and conducts guided by the team.

Discussion/Conclusion: Increased aging in association with the elderly fragility were associated with more prevalent rates of hospitalizations and behavioral changes in this population. The increase in requests to the CLPS for elderly patients hospitalized for other specialties represent a trend in general hospitals. The CLPS can promote a closer relationship between physicians and the multidisciplinary team, providing thus, an approach and treatment most appropriate to the elderly.
NEOPLASIA WITH DIFFERENTIATION TO PERIVASCULAR EPITHELIOID CELLS (PECOMA) IN RETZIUS SPACE: A CASE REPORT

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Mentor name: Moura, R. D., A. R. F. –

Background/Introduction: Tumor perivascular epithelioid cells, PEComa, is a rare neoplasm that displays immunoreactivity for melanocytic markers and smooth muscle markers. It was described in 1992 as a type of tumor with cells of epithelioid appearance, clear eosinophilic cytoplasm and perivascular distribution. Kidney, uterus and retroperitoneal space are the most common sites. Its origin is still uncertain.

Objectives: To report a rare case of a patient with PEComa in Retzius space, previously diagnosed with ovarian cyst.

Methods: The information in this study were obtained through review of medical records of the patient, collecting related to historical data, queries, and conduct examinations. The record was rescued at the University Hospital of the database of the Federal University of Piaui, where the patient underwent the procedure and performs medical care.

Results: Female patient, 19, started having pain stabbing lower abdomen. TVUS showed solid image of heterogeneous regular contour measuring 8,5x8,1 cm in the right ovary. In explorative laparotomy was observed tumor of 11x9,5 cm, invading the space of Retzius. Uterus and ovaries had no alterations. Intraoperative examination of freezing and pathology from the biopsy were performed. These revealed sections of mesenchymal neoplasm with fusiform and rare cell mitosis amid mononuclear cell infiltration and hemorrhage without necrosis areas. Histopathological diagnosis was Neoplasia mesenchymal spindle cell for low-grade. It was performed immunohistochemical study that revealed muscular marker expression (actin m. Smooth) and melanocytic (Melan A) in neoplastic cells, confirming the diagnosis of neoplasia
with differentiation for perivascular epithelioid cells (PEComa). After 4 months of surgery does not report symptoms. Currently the patient is in post-operative monitoring.

**Discussion/Conclusion:** We describe a case of PEComa in Retzius space, a rare neoplasm with few reports in the literature. The PEComas are made to morphological and immunohistochemical level, by perivascular epithelioid cells that exhibit immunoreactivity for melanocytic markers or (HMB-45 and / or melan-A), or to smooth muscle markers (actin and / or desmin). In this case, in agreement with the literature, we find immunopositive for smooth muscle actin markers (clone 1A4) and MelanA (MART-1). According to morphology and the organ of origin, the PEComas may be confused and diagnosed as different forms of sarcomas. This report has shown the great importance of immunohistochemistry for diagnostic confirmation PEComa. Although most are benign, have been reported cases of aggressive behavior and distant metastases, it is important to carry out a serial and prolonged clinical monitoring of the patient.
MAIN OPPORTUNISTIC INFECTIONS IN PATIENTS WITH HIV/AIDS

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Background/Introduction: Acquired Immunodeficiency Syndrome (AIDS) is a disease caused by the human immunodeficiency virus (HIV), which affects cellular immunity, with the depression of T cell (CD4 +). The initial symptoms are night sweats, fatigue, weight loss, diarrhea and opportunistic infections (OI). These are diseases developed as a result of change of an immune host. They can be caused by microorganisms usually not considered pathogens or pathogens that play a more aggressive character.

Objectives: Define the main opportunistic infections that affect adults with HIV/AIDS.

Methods: This is a literature review, which used data from scientific articles indexed in the data sources: SCIELO, Biblioteca Virtual da Saúde do Ministério da Saúde (BVSMS) and Google Scholar. The descriptors used were "HIV", "AIDS" and "opportunistic infections". We selected ten articles published between 2013 and 2015.

Results: The OI more related to HIV/AIDS in adults are: candidiasis, cryptococcosis, toxoplasmosis, Pneumocystis jirovecii pneumonia, cytomegalovirus and histoplasmosis. The candidiasis is the most common infection in patients with HIV/AIDS, occurring in over 80% of the cases before the advent of antiretroviral therapy. Regarding cryptococcosis, the literature shows that it is the most frequent systemic mycosis in HIV/AIDS patients. The toxoplasmosis, in turn, is considered the most common cause of focal neurological lesions. P. jirovecii pneumonia is the most common cause of opportunistic pulmonary disease in HIV/AIDS patients. Severe cases of cytomegalovirus are still being reported. The disease in these patients can accelerate the progression of AIDS and lead to death. Histoplasmosis, finally, is a systemic mycosis that can cause, in immunocompromised, a systemic and severe impairment. Acute disseminated histoplasmosis is considered a defining disease of AIDS.
Discussion/Conclusion: Worldwide, there are over 35 million people living with HIV/AIDS. The greater availability of diagnostics, improved access to treatment and greater adherence to antiretroviral therapy have increased survival time, decreased mortality and reduced the occurrence of OI. However, in Brazil, a significant portion of people with HIV/AIDS presents T cell (CD4 +) count below 200 cells/mm³ at diagnosis. This demonstrates a significant risk of developing OI. Thus, it is necessary to know the main opportunistic infections that affect people with HIV/AIDS and encourage preventive and therapeutic measures to reduce morbidity and mortality.
EVALUATION OF SEXUALITY IN OLDER AGE AND THE EMERGENCE OF HIV INFECTIONS

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Mentor name: Gabriela Cunha Fialho Cantarelli Bastos

Background/Introduction: Increased longevity and quality of life of Brazilians in recent years has resulted in the rise of the aging population as a significant portion of this new social arrangement. The study of sexuality of the elderly is of singular importance for recognizing and promoting sexual health to this age group, asides from better orienting the patients and creating new public health policies.

Objectives: To evaluate the impact of active sexuality in individuals above 60 years by analyzing the number of elderly people infected with HIV in Brazil.

Methods: This study used data from the Boletim Epidemiológico AIDS e DST - 2015 published by the Ministry of Health with data regarding the rate of age by year of diagnosis of patients with 60 or more years of both sexes, between the years 2004 and 2014, with the AIDS detection rate in patients of the same age group.

Results: In 2009, the HIV-infected over 60 years accounted for about 3% of the total. In 2013, the proportion increased to 18%. The mortality from AIDS by age group shows that some of the age groups had increasing numbers, especially at 55 to 59 years and 60 years or more increased by 22.7% and 33.3%, respectively. The virus detection rate in the elderly increased by more than 80% between 2001 and 2012.

Discussion/Conclusion: The recognition of the active sexuality in patients over 60 years becomes necessary to STDs research, especially AIDS, in these patients, since symptoms of this disease can mimic other infections. An active and ongoing discussion about sexuality in old age, within the medical environment, is essential for the development of awareness
campaigns and control and prevention of STDs within this group of extreme significance within the Brazilian population.
ASSOCIATION BETWEEN HANDGRIP STRENGTH AND ANTHROPOMETRY IN HIV-POSITIVES PATIENTS

Author name: Silva, G. C. N.


Mentor name: Tolentino, J. C.

Background/Introduction: Unintentional weight loss and lean mass loss are common complications of infection with human immunodeficiency virus (HIV), despite the introduction of antiretroviral therapy (ART). Previous studies have shown that the decrease in anthropometric dimensions may influence handgrip strength of other populations. Hence, this paper seeks to determine the relationship between handgrip strength (HGS) and anthropometric dimensions among HIV-positive patients.

Objectives: The aim of this research is to study the association between HGS and anthropometric measures in HIV-positive patients.

Methods: This cross-sectional study included HIV-positive outpatients that began the treatment with ART 6 months ago. Patients with the impossibility of evaluating all anthropometric indicators and the presence of any type of swelling were excluded. There were applied the Subjective Global Assessment (SGA), HGS measures (mean of 3 trials of grip strength of the dominant hand) by dynamometer and, anthropometry (weight, height, body mass index-BMI, triceps skinfold thickness-TST, midarm circumference-MAC, arm muscle area-AMA, arm fat area-AFA, midarm muscle circumference-MAMC). For statistical analysis will be used SPSS 21® software. According to the test of Normality Kolmogorov-Smirnov, it was applied the t-test or Mann-Whitney U test. The mean values and standard deviation (SD) are determined. The data are analyzed by Pearson r correlation or Spearman’s rank correlation coefficient (according to the distribution of the variables). The significance level was considered 5%.
**Results:** The median age was 44 years old (range 28-72). One hundred and thirteen patients were analyzed. There were 54 women and 59 men in all sample. The mean (SD) BMI was 26.2(5.9). According to the SGA level, 104 patients were classified as well-nourished (SGA-A) and nine as moderately malnourished (SGA-B). The mean values of weight, BMI, MAC, AMA, AFA, were significantly lower in SGA-B group. In all sample, the average value (SG) of HGS was 29.8 ± 9.7 kg/f. The mean HGS (SD) was significantly higher in SGA-A group compared to SGA-B group (30.3±9.9 kg/f and 24.2±4.3 kg/f, respectively; p=0.003). The HGS measurements (mean ±SD) were higher in men compared to woman (32.5±5.3 kg/f and 21.5 ± 4.5 kg/f, respectively; p<0.001). Overall, HGS of both groups showed a significant correlation between weight, BMI, AMA, and MAMC, but no correlation with AFA. Their values were not influenced by age.

**Discussion/Conclusion:** In our study, the majority of patients was considered well-nourished. The HIV-positive patients had lower HGS values than those found in most studies with other populations. The HGS was significantly higher in the well-nourished group. In both groups, HGS measures had a correlation with AMA and MAMC, suggesting an association with muscle arm. To our knowledge, this is the first study in Brazil that correlates the values of HGS with anthropometric measurements in HIV-positive outpatients. In the light of our results, the SGA method, a simple subjective classification, could be used to determine the nutritional status in HIV-positive outpatients. We found a significant correlation between the measurement of HGS and anthropometric measures. The present data support the applicability of maximal HGS in HIV-positive outpatients. Prospective trials are needed to assess whether handgrip can be useful in monitoring the nutritional status and prognosis of HIV-positive patients.
PREVALENCE OF CATATONIA IN A GENERAL HOSPITAL

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Mentor name: Tolentino, J. C.

Background/Introduction: Catatonia can be defined as a behavioral and motor syndrome, with quite peculiar signals. Catatonic patients are at risk for severe complications and delays in diagnosis and management are associated with increased morbidity. Current literature demonstrates the prevalence of catatonia ranges between 7.0 and 31.0%. Although this condition has been described in several studies conducted in psychiatric services, there are not studies about catatonia prevalence in general hospitals.

Objectives: The aim of this study was to identify the prevalence of catatonia in patients admitted to internal medicine ward of a university hospital and also analyze the sociodemographic data of the sample studied.

Methods: This cross-sectional study included patients admitted to an internal medicine ward of University Hospital Gaffrée and Guinle between May 2011 and May 2015. To make a diagnosis of catatonia one has to have a minimum of 3 from the first 14 signals of the Bush-Francis Catatonia Screening Instrument. This diagnosis was confirmed by a psychiatrist, according to Diagnostic and Statistical Manual of Mental Disorders, 4th Edition, Text Revised criteria. The statistical analysis was performed with the Stata statistical package. Depending on the distribution of variables, the t-test and Mann-Whitney U-test were used. Multiple logistic regression were used to analysis the association between independent variables (age, gender, race, schooling and marital status) and a dichotomous dependent variable (catatonia). The significance level was considered 5%.

Results: In our sample it was analyzed 486 patients, with 262 men (53.9%) and 224 women (46.1%). The mean age was 54.39 years. The majority of the patients were white, married,
retired and with lower school graduation. The prevalence of catatonia was 6.2%, with 13 men (43.3%) and 17 women (56.7%) and a mean age of 65.40 years. In multiple regression analysis, schooling was associated with catatonia diagnosis (OR=0.3; 95%CI: 0.003-0.2; p=0.02). There was association between age and the presence of catatonia (p<0.001). The variables gender, race, and marital status were not significantly associated with catatonia. General medical conditions (n=20; 66.8%) were more associated with catatonia than the psychiatric disorders (n=5; 16.6%) and neurological diseases (n=5; 16.6%). The most prevalent disorder identified in catatonic patients was pneumonia (13.3%). Regarding neurological conditions cerebral tumor prevailed. Among psychiatric diseases highlighted bipolar disorder, depression, and schizophrenia.

**Discussion/Conclusion:** Catatonia is not a rare finding in patients admitted to an internal medicine ward of a general hospital. In our study, age was considered a risk factor for the development of catatonia. The inverse association between schooling and catatonia diagnosis suggests that patients with a lower education level have a greater risk of developing catatonia, however more studies are needed to confirm this association. The prevalence of catatonia was lower than that reported in other studies, probably due to different diagnostic criteria applied. Therefore, it is clear the importance of generalist practitioner, and medical students know to recognize the main manifestations of catatonic state and its diagnosis methods. According to some authors, the screening for catatonia must be part of the routine in general clinics. Thus, the primordial step to improve recognition and treatment of this rare, but relevant condition is to become familiar to medical students.
THE COMBINED THERAPY OF CLOPIDOGREL AND ACETYLSALICYLIC ACID REDUCES MICROPARTICLES CONCENTRATION IN PATIENTS WITH STABLE CORONARY ARTERY DISEASE

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Background/Introduction: Microparticles (MPs) are a heterogeneous group of vesicles of 0.1-1µm diameter, derived from different cell lines. Its increase is mainly described in coronary syndromes, neoplasms, among others, and therefore, constitute potential biomarkers of vascular disease. The use of certain drugs has been associated with decrease of microparticles, however, the effects of combined therapies with antiplatelet drugs on microparticles in patients with coronary heart disease have not been studied.

Objectives: Determine the concentration of MPs in patients with stable coronary artery disease and evaluate the pharmaceutical interactions between the treatment with aspirin alone or in combination with clopidogrel and the final concentration of microparticles.

Methods: An observational, cross-sectional, analytic study was performed. MPs concentration was determined in 111 patients at the INC "Ignacio Chavez" who underwent cardiac catheterization secondary to stable coronary artery disease, of which only 63 were taking aspirin (group 1) and 48 aspirin and clopidogrel (group 2). The average age in both groups was similar (62.6 ± 10 and 61.9 ± 9.2). The sample was obtained by venipuncture and collected into tubes with sodium citrate 3.2%. The tubes were centrifuged at 1,500g for 15 min, the supernatant was centrifuged at 13,000g for 2 more min. Subsequently three cycles were centrifuged at 20,000 g for 1.5 h at 4°C, performing washings between each cycle of centrifugation with Hepes buffer. The samples were subjected to heat shock, and protein concentration was quantified using a microplate spectrophotometer EON, BioTek to a wavelength of 280 nm. The MPs concentration was estimated by the Freysinnet and Toti formula (1 µg/ml protein = 8 x 10^5 Mps/µL). The
data was analyzed with Kolmogorov - Smirnov and Mann-Whitney U, and reported with median (minimum-maximum). Value of p ≤ 0.05 was considered statistically significant.

**Results:** MPs concentration was lower for the group 2 than for the group 1 (p = 0.041), with median concentrations of 0.601 x 10^5 MPs (0.088 - 12.234 x 10^5) and 1.007 x 10^5 (0.112 – 19.372 x 10^5) respectively.

**Discussion/Conclusion:** Patients with stable coronary artery disease who received combined treatment of aspirin and clopidogrel showed a significantly lower concentration of microparticles compared to the group receiving aspirin therapy alone. The mean ages between groups are similar, so it is not considered a factor in this case. The source type of microparticles diminished should be studied in the future with other techniques, since the influence of each specific drug on each type of microparticle is not defined in current literature. Moreover, it is known that the microparticles are elevated in certain inflammatory processes such as cancer, and are responsible for many of its complications, so it could be a future biomarker of complications. It would be worth doing the same way with coronary syndromes, thus it is required further study to define specific cutoffs for each population and therapeutic options for management.
PREVALENCE OF MAJOR DEPRESSIVE EPISODE AMONG HIV-POSITIVE AND HIV-NEGATIVE INPATIENTS

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Mentor name: Tolentino, J.C.

Background/Introduction: Several psychiatric disorders have been described in patients with the human immunodeficiency virus (HIV). Depression is one of the most prevalent psychiatric conditions among HIV-infected patients, commonly underdiagnosed and consequently undertreated in medical practice. Then, we compared the prevalence of major depressive episode (MDE) in hospitalized patients admitted to internal medicine ward of a University Hospital.

Objectives: The aim of this study is to compare the prevalence of MDE among HIV-positive and HIV-negative patients admitted to internal medicine ward of a University Hospital.

Methods: This cross-sectional study included patients admitted to internal medicine ward of Gaffré and Guinle University Hospital between October 2012 and September 2015. We excluded patients without serologic evaluation for HIV and with medical conditions that prevented the understanding and realization of questionnaires. The MDE diagnosis was established according to the fifth edition of the Diagnostic and Statistical Mental Disorders (DSM-5). The Beck Depression Inventory (BDI) was applied to all subjects of the sample. For statistical analysis, it was used SPSS 21® software. According to the histogram and the test of Normality Kolmogorov-Smirnov, continuous variables were normally distributed. Thus, they were expressed as the mean and standard deviation (SD) and applied the t-test. Multiple logistic regression were used to analysis the association between independent variables (age, gender and HIV diagnosis) and a dichotomous dependent variable (MED). The significance level was considered 5%.
Results: We evaluated 452 inpatients. There were 358 (63.6%) HIV-negative and 94 (16.7%) HIV-positive inpatients. The mean age of the patients was 51.4 years (SD 11.2; range 18-78). The mean age (SD) was significantly higher in HIV-negative compared to HIV-positive groups (53.5 ± 12.6 vs. 43.0± 9.3 points; p = 0.008). More than half of the sample was male in both groups. The prevalence of MDE (26.1%) was higher in HIV-positive inpatients compared to HIV-negative inpatients (41.5%). The BDI score was significantly higher among HIV-positive compared to HIV-negative inpatients (20.1 ± 3.5 vs. 14.7 ± 2.6 points; p = 0.005). In multiple regression analysis, MDE was associated with HIV diagnosis (OR, 2.03; 95% CI, 1.78-2.98) and female sex (OR, 1.97; 95% CI, 1.27-2.89). Age was not associated with depression diagnosis.

Discussion/Conclusion: Discussion: The main results of this study showed a high prevalence of MDE in patients admitted to the internal medicine ward of University Hospital, mainly among those with HIV infection. The MDE was associated with HIV diagnosis and female sex. Most previous studies were done with outpatients and point to a higher prevalence in HIV-positive patients. Despite the importance of depression diagnosis in inpatients, there are few studies in Brazil with sample similar to the present study. Conclusion: In our sample, we have demonstrated a high prevalence of depression in patients who were admitted to internal medicine ward, which is even higher in HIV-positive patients. As depression is often underdiagnosed and depressive symptoms are often linked to worse HIV health outcomes, general practitioners and medical students should be alert and investigate the presence of MDE in hospitalized patients, especially in HIV-positive individuals.
THE USE OF CLOPIDOGREL IN CARDIOVASCULAR PATIENTS DECREASE CIRCULATING MICROPARTICLES

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Mentor name: De la Peña-Díaz, A.

Background/Introduction: Microparticles are extracellular vesicles produced from an activation or apoptotic process and it is known that expose phospholipids having as result an increase in the coagulation process. MPs levels rise in many diseases like neoplasias and acute coronary syndromes. The MPs derived from multiple circulating lineages but the most abundant are coming from the platelets. Clopidogrel is an ADP antagonist, which acts on the P2Y12 receptor, inhibiting in an irreversible form the platelet and can be beneficial to reduce microparticles in cardiovascular ischemic disease.

Objectives: Determine the concentration of microparticles in patients with cardiovascular disease under Clopidogrel treatment.

Methods: -Observational, cross-sectional, analytical study
-We obtained arterious blood samples of 776 patients of Instituto Nacional de Cardiología Ignacio Chávez who presented to emergency room or follow-up medical consultation. Tubes with sodium citrate 3.2% were used as anticoagulant. Afterwards, we separated plasma and microparticles.
- Microparticles obtained were quantified with spectrophotometry and Freyssenet formula (1µg/mL protein = 8x105MP/µL microparticles)
- Patients were divided in two groups, the ones who were receiving Clopidogrel before blood sampling of and the ones who were not receiving it. Others variables as age, BWI, coronary syndrome, diabetes, hypertension, tabaquism, colesterol and triglycerides were also included.
**Results:** Data was analyzed using IBM SPSS Statistics 22. The Kolmogorov-Smirnov, U de Mann-Whitney and One-way ANOVA were used for statistical analysis. The level of significance was set at 0.05 (P<0.05). Freyssinet formula was applied to the total protein concentration.

The group of patients treated with clopidrogrel (n=338) have microparticles concentration of 7.2x10^6 MP/µl (1.6x10^6 - 1.52x10^9 MP/µl). The group of patients without treatment (n= 438) have a microparticles concentration of 8.5x10^7 MP/µl (8x10^6 - 2.23x10^9 MP/µl). The microparticles concentration was significantly lower in the group treated with clopidogrel (P=0.034). Patients with chronic angina treated with clopidogrel (n=59) have microparticles concentration of 6.56x10^7 MP/µl (5.6x10^6 MP/µl - 1.52x10^9 MP/µl). Patients with acute coronary syndrome treated with Clopidogrel (n=271) have microparticles concentration of 7.6x10^6 MP/µl (1.6x10^6 MP/µl - 8.2x10^9 MP/µl). There is not significantly difference between patients with stable angina and acute coronary disease, both treated with clopidogrel. (p=0.67).

**Discussion/Conclusion:** We can conclude that the chronic blockage of the ADP receptor using Clopidogrel reduces significantly the number of microparticles. In contrast, the concentration of microparticles in patients with acute and chronic coronary syndrome under treatment with Clopidogrel is not different between this groups. Therefore, this result demonstrates that the action of this drug and the microparticles concentration do not depends on the underlying disease.
LIPOPROTEIN A: AN INDEPENDENT RISK FACTOR FOR CARDIAC VALVE MINERALIZATION

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Mentor name: Aurora de La Peña Díaz

Background/Introduction: High blood pressure, Diabetes Mellitus and smoking are some risk factors for cardiac disease that we know as traditional or classic but these factors only identifies 70% of the people at risk of cardiac disease. Currently there are other risk factors known as emergent and in addition with the risk factor listed above the predictive capacity increase. Lipoprotein a or Lp(a) is one of these emergent risk factors. Currently is not jet clarify how the Lp(a) interferes with the processes of valve mineralization, however there are some theories of how con this processes might occur.

Objectives: Determine the existing relation between the plasmatic concentration of Lp(a) and valve mineralization and compare it with the classic risk factors for cardiovascular disease in patients that have had cardiac surgery for valve replacement in Instituto Nacional de Cardiología “Ignacio Chávez”

Methods: We studied 20 consecutive patients whom were subjected to aortic valve replacement in the cardiothoracic surgery department in Intituto Nacional de Cardiología “Ignacio Chávez”. Our group not only studies the presence of calcium in the valve but the presence of other minerals with a scanning electron microscope in Instituto de Geofísica of UNAM. Images form the biological material were analyzed in the program Image J1.5b. The Lp(a) concentration was determine with an ELISA following the manufacturer instructions. The data was analyzed with the program SPSS v21
Results: We observed that for aortic valve mineralization the classic risk factors such as diabetes mellitus, high blood pressure and smoking did not play a significant role this was analyzed with Mann-Whitney test and statistical significance was set in values with p < 0.05. On the contrary Lp(a) was the leading risk factor for the aortic mineralization (p = 0.002) this was analyzed with Wilcoxon’s test, statistical significance set with values p < 0.05.

Discussion/Conclusion: With this study we conclude that the concentration of Lp(a) is an independent cardiovascular risk factor, in particular for the mineralization of the aortic valve. We think important to clarify that the classic risk factors have been highly associated in many pathological processes in heart disease, in particular with ischemic heart disease, however as we can see here these so called classic cardiovascular risk factors are not associated as strongly to the develop of valve mineralization.
DESIRE FOR DEATH IN PATIENTS RECEIVING PALLIATIVE CARE FOR CANCER

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Mentor name: Oscar Rodríguez Mayoral

Background/Introduction: The desire for death is commonly present in patients with an advance or life threatening illnesses like cancer. There is a relation between that desire and the presence of physical symptoms as well as social and family factors. However there is a strong association between psychiatric disorders (PD), such as depression and anxiety, and the expression of the desire to hasten death (DHD) in patients treated in oncology palliative care units; which can contribute to a difficult physical symptom control and the presence of suffering of the patients and their families.

Objectives: The desire to hasten death and psychiatric disorders are very common in palliative care patients, but it is underdiagnosed and undertreated, so it is important to explore their presence. This study explores the relationship between the desire to hasten death, the presence of a psychiatric diagnosis and sociodemographic and clinical variables in patients with advanced cancer treated in a unit of oncological palliative care.

Methods: This research was executed in the Palliative Care Unit of the National Cancer Institute in Mexico City, were we retrospectively reviewed the records of patients treated for the first time by the psychiatric unit in the period from January to December 2015. We included patients who had a psychiatric diagnosis, eliminating the patients diagnosed with delirium. The population is described by sex, age, functionality (Karnofsky) and primary tumor. The relationship between categorical variables was analyzed by using Mann –Whitney U test and between categorical and numerical by the T Student test.

Results: We analyzed 182 medical records of patients who were evaluated for the first time by the psychiatric unit, of which 64 (35.1 %) patients were diagnosed with a PD, except for
delirium. Of the patients enrolled, 43.8 % (N 28) expressed the DHD; of which the average age was 49.9 years (SD 10.85) and 71.4 % (N 20) of them were female. The main psychiatric diagnoses were depressive disorders with 92.9 % (N 26), anxiety disorders, 21.4 % (N 6) and substance use disorder 10.7 % (N 3). As for the statistical analysis, we found statistically significant association between DHD and the diagnosis of major depressive disorder (p=>0.000) and an anxiety disorder (p=0.034) as well as a positive association between functionality and DHD (p=0.033).

Discussion/Conclusion: Only a small percentage of the patients studied were sent to psychiatric assessment by the presence of the desire to hasten death. The percentage of patients expressing the DHD in our study is higher than previously reported in the literature, in addition, unlike previous reports; we did not find any association between age and cancer patients diagnosed with DHD. The presence of major depressive disorder and / or an anxiety disorder are the main factors for the presence of DHD in patients with end-stage disease. There are several limitations to the study that must be noted. First it is a retrospective study, secondary there is some bias since the sample is taken from the patients evaluated by the psychiatric area of the palliative care unit, and third it is a small sample and we did not use any instrument to measure. Still, this study proves that the DHD is poorly identified in the areas of palliative care, and that this may contribute to the difficulty of treating physical symptoms, thereby affecting the quality of life and death in patients at the end of the life.
THE IMPORTANCE OF FATIGUE FOR THE DIAGNOSIS OF MAJOR DEPRESSIVE EPISODE IN OUTPATIENTS’ CLINICS

Author name: Narciso, J.H.


Mentor name: Tolentino, J.C.

Background/Introduction: Depression is the most common psychiatric disorder in the general population. The diagnosis of major depressive episode (MDE) is based on the presence of depressed mood or loss of interest or pleasure in everyday activities for two weeks or more, followed by at least four non-mandatory criteria. Fatigue is one of them, and it might affect physical and cognitive function. Although fatigue is a nonspecific symptom of MDE, it is a frequent complain in clinical practice.

Objectives: The aim of this study was to evaluate the manifestation of fatigue as a valuable symptom for the diagnosis of major depressive episode in patients treated at the department of clinical medicine of an University Hospital.

Methods: A cross-sectional observational study was conducted at the department of clinical medicine of the University Hospital Gaffrée e Guinle. Major depressive episode was defined according to the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5). The 17-items Hamilton Depression Rating Scale (HDRS17) was used to measure depression severity. HDRS17 scores range from 0 to 52. There were analyzed the sensitivity and specificity of fatigue for the MDE diagnosis. To check the data distribution, the Kolmogorov-Smirnov test was run and the t-test or Mann-Whitney U-test were applied. A chi-square test was used to examine the association between fatigue and gender. Binary logistic regression models were applied to analyze the association between fatigue and MDE diagnosis. Multiple logistic regression analysis was used to examine the association between the independent variables and presence of fatigue. The value of p<0.05 was considered statistically significant.
Results: We analyzed 342 outpatients, with 224 (65.5%) women. The median age was 43 years (range 22-78). The prevalence of MDE was 36.9%, and the majority of depressed patients was women (78.0%). With the aid of the DSM-5, the patients were stratified into depressed (MDE diagnosis) and non-depressed groups. There were no significant differences regarding age among both groups (p=0.34). The majority of patients with fatigue was women (76.3%). Female sex showed a higher risk for fatigue (OR, 2.83; 95% CI, 1.8-4.6; p<0.0001). The prevalence of fatigue was significantly higher in depressed patients (73.6%) compared to non-depressed patients (31.5%). The HDRS17 scores were significantly higher in patients with fatigue (14.9±5.4 vs. 4.9±2.1 points; p<0.001). The sensitivity of fatigue for diagnosing MDE was 83.0%, while specificity was 68.0%. In binary logistic regression fatigue was associated with MDE diagnosis (OR, 10.1; 95% CI, 5.7-17.7; p<0.0001). Age and education level were not associated with fatigue.

Discussion/Conclusion: In our study, we observed a high prevalence of MDE and that the presence of fatigue has an important relation to the MDE diagnosis, predominantly in women. Also, this symptom is possibly associated with greater severity of depression since patients with fatigue presented higher values of HDRS 17. In previous cross-sectional studies, the MDE prevalence estimates varied considerably among countries. Preceding studies supported the notion that depression and fatigue states are intrinsically linked, supporting the fact that the presence of fatigue may be associated with more severe MDE. Although fatigue is not considered an essential depressive symptom according to DSM-V, this nonspecific symptom has been recognized as one of the most bothersome and most prevalent symptoms of depression. Thus, these results suggest that the presence of fatigue may be used in clinical practice as a useful indicator of major depressive episode.
EVALUATION OF EXCESSIVE DAYTIME SLEEPINESS IN SOCCER REFEREES

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Mentor name: Tolentino, J.C.

Background/Introduction: Excessive daytime sleepiness (EDS) may interfere with the levels of alertness and wakefulness. The prevalence of EDS has a variable rate according to the studied population. The most commonly used questionnaire to assess excessive sleepiness is the Epworth Sleepiness Scale (ESS). EDS might affect cognition and functional performance, which are essential functions for the efficiency of soccer referees’ work. Thus, in this study, we evaluated the presence of EDS in this population.

Objectives: The aim of this study was to determine the prevalence of Excessive Daytime Sleepiness by applying the ESS in a sample of soccer referees of the State of Rio de Janeiro.

Methods: In this cross-sectional study, the subjects consisted of randomly selected soccer referees from the Soccer Federation of the State of Rio de Janeiro (FERJ). The ESS is a simple self-administered questionnaire that offers a subjective measurement of a patient's level of excessive sleepiness. This scale attributes a value to each question that corresponds to the propensity of the individual to fall asleep in the routine situations. EDS was defined by an ESS score > 10 points. According to the test of Normality Kolmogorov-Smirnov, continuous variables presented normal distributions. Thus, they were expressed as the mean and standard deviation (SD) and applied the t-test. Pearson's correlation coefficient was used to assess the correlations between ESS score and age in the whole sample. Multiple logistic regression analysis was used to examine the association between independent variables (age, education level, gender, perceived sleep and nighttime sleep duration) and the EDS.

Results: In our sample, we analyzed 266 soccer referees. There were 254 men (95.5%). The mean age was 31.8 years old (SD 7.8; range 20-45). The prevalence of EDS was 16.9% (41 men and two women). The mean age (SD) was not significantly different in EDS referees
compared to subjects without EDS diagnosis (31.13± 5.4 vs. 32.0± 6.1 years; p = 0.41). The mean sleep duration was 7.8 hours (SD 1.6). There was no correlation between ESS score and age in the whole sample. In multivariate models the dependent variable EDS was not associate with the following variables: age (p=0.15), gender (p=0.43), education level (p=0.16) and nighttime sleep duration (p=0.82). Perceived insufficient sleep increased the risk of EDS by 1.3 fold (OR, 1.3; 95% CI, 1.14–1.83) compared to perceived sufficient sleep.

**Discussion/Conclusion:** In the present study the prevalence of EDS in soccer referees was similarly described in other populations. However, EDS was investigated in athletes in few studies. In soccer referees, levels of alertness and wakefulness are a critical factor for optimal physical and mental performance. Because of these factors, it is important to assess the presence of EDS in referees. In our sample, perceived insufficient sleep was the most import factor associated with excessive daytime sleepiness. A poor understanding of EDS may result in misdiagnosis and therefore decreased performance in professional activity of referees. To our knowledge, this was the first study that investigated the prevalence of excessive daytime sleepiness and associated factors in Brazilian's soccer referees. The high prevalence of EDS in this particular population should motivate the investigation of excessive sleepiness in soccer referees.
DEPRESSION AND ITS RELATION WITH ADEHERENCE TO ANTIHYPERTENSIVE DRUG THERAPY IN THE ELDERLY

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Mentor name: Maria Rita Carvalho Garbi Novaes

Background/Introduction: Treatment of hypertension is one of the most common reasons for visits of elderly to medical centers in Brazil. Depression therefore represents in elderly people a potentially predictor of treatment nonadherence in patients with hypertension. This correlation needs to be investigated in elderly assisted in primary care in the Federal District, for the development of actions that qualify the pharmacotherapy of the elderly.

Objectives: To analyze the relation between depression and adherence to antihypertensive drug treatment in hypertensive elderly assisted by the primary healthcare in Brazlândia, Distrito Federal.

Methods: This is an observational study, case-control. Structured interview was performed as well as 2 questionnaires were applied (GDS-15 and MMAS-8) in hypertensive elderly (n=261).

Results: The analysis showed 59% were female, 90% of low education, 53% were retired, 68% were married, 13% lived alone, 68% did not do self medication, 38% got the medication in the health center, 88% were sedentary, 81% were non smokers, the most used drug was diuretic 60%, only 22% used only one drug. The comparative analysis showed that blood pressure levels and adherence to treatment are independent variables, as well as where the patient gets the medication and the adherence to drug therapy. The prevalence of depression in this population was 37%.

Discussion/Conclusion: Prevalence ratio showed a higher risk of depression within adequate BP and abdominal circumference, over wheight and those who did not adhere to treatment. It
also showed lower risk of depression in men and smokers. The odds ratios show greater chance of depression in the elderly within adequate BP and AC and in those who did not adhere to treatment. It was found less chance of depression in men and smokers.
EXTENSION PROJECTS
DOCTOR, HOW ARE YOU? EVALUATION OF BURNOUT, ANXIETY AND DEPRESSION IN PHYSICIANS OF AN ONCOLOGY HOSPITAL

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Background/Introduction: Currently, it’s possible to identify each more that physicians present high levels of burnout, symptoms of anxiety and depressions. The physicians have worked in the limit from your possibilities. However, it is important to plan subsequent insertion of specific interventions, aiming prevention or support, in order to improve their quality of life, to increase their job satisfaction and to propitiate that they see themselves as important and productive at work.

Objectives: To identify the prevalence and characteristics of burnout syndrome and the symptoms of anxiety and depression in physicians at an oncological hospital.

Methods: A cross-sectional study held at the Barretos Cancer Hospital (Brazil), including holders physicians and residents physicians. For data collection were used socioeconomic, demographic and health-related questionnaires; variables characterization questionnaires related to physicians’s daily lives; the Maslach Burnout Inventory; and the hospital anxiety and depression scale (HADS). The data collection method was with Survey Monkey. For screening criteria, it was considered positive the following cases: anxiety (HADS-A≥11), depression (HADS-D≥11), emotional exhaustion (EE≥27), depersonalization (DP≥10) and personal fulfillment (PF≤32). These, then, were correlated to the physicians’ socioeconomic, demographic and occupational characteristics. All variables with p<0,2 in the univariate logistic regression analysis were included in multivariate logistic regression model (backward stepwise regression). The statistical significance criterion assumed was 5%.

Results: Of the 323 emails sent via Survey Monkey, 237 (73.3%) physicians responded to the survey, of which 4 (1.2%) refused to participate. The evaluation was 227 (70.2%) physicians, corresponding those who completed all survey items. Of those, 143 (63%) were male, aged 31-
40 years (44%), 140 (61.7%) are married, 92 (40.5%) worked in the institution between 1 to 6 years and 139 (61.2%) are holders physicians. The main items associated with higher or lower levels of burnout were age, frequency of leisure time, satisfaction with professional development, department of labor (intensive care unit/emergency), lack of recognition by the hospital, excessive work activities and probable anxiety.

**Discussion/Conclusion:** The prevalence of burnout was high in the studied population. In addition, both personal as related to work factors were associated with burnout, anxiety and depression. The results of this study may be used for development of future preventive and/or therapeutic strategies aimed to improve the health of medical professionals and, consequently, the results of their work (productivity, quality of care and satisfaction with care).
EMPLOYEES OF LONG-STAY INSTITUTION FOR ELDERLY PERCEPTION OF CHANGES IN THE QUALITY OF LIFE OF ELDERLY AFTER PARTICIPATING ON ANIMAL-ASSISTED ACTIVITY

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Background/Introduction: The institutionalization of the elderly can lead to loss of autonomy, generate sadness and increase susceptibility to diseases. In this context, the contact with an animal can trigger a stress-free relationship, without judgment or expectations. The Animal-Assisted Activity, which consists of visitation, recreation and distraction through the effective link between humans and animals, seeks the welfare, entertainment and amelioration of emotional, physical and mental problems of the elderly.

Objectives: This study aims to analyze the impact of Animal-Assisted Activity held in long-stay institution for the elderly named “Lar de Betânia” in the city of “São José do Rio Preto” as the changes in the interaction of the elderly among themselves and their behavior, mood, body language and mobility, on the perspective of the institution’s employees.

Methods: A cross-sectional study with quantitative analysis of questionnaire applied to employees of long-stay institution "Lar de Betânia" was held to evaluate changes in the interaction of the elderly among themselves and their behavior, mood, body language and mobility after Animal-Assisted Activity held in 14 meetings during the year of 2015. The sample is composed of employees of the institution “Lar de Betânia” (N = 11), health professionals who have been in contact with the elderly throughout the year of 2015. The questionnaire "Perception of employees of institution “Lar de Betânia” on the participation of the elderly in Animal-Assisted Activity promoted by LGG in 2015 " was prepared by the coordinators of Geriatrics and Gerontology league of medical school of São José do Rio Preto (LGG). “Lar de Betânia” is a long-stay institution for the elderly with capacity of 43 internal and has 25 employees, of which 11 participated in the study.

Results: In the analysis of changes related to the interaction among the elderly, behavior, mood and body language, they were few to moderate, however, regarding mobility there was no changes. The most significant changes were observed in women on all the data analyzed. The age group of 70-80 years had the best results about changes after Animal-Assisted Activity.
Discussion/Conclusion: It is possible to note that the Animal-Assisted Activity brought improvements in quality of life of the elderly, contributing to the interaction of the elderly among themselves, and their behavior, mood and body language. The limitations of the activity in mobility changes may be associated with age and movement restrictions already in progress in the elderly. The most expressive changes in women compared to men may be related to the predominance of women compared to the number of men in the elderly, featuring the feminization of old age, which is also reflected in long-stay institutions for the elderly. With regard to age, the age group of 70 to 80 years has a great number of elderly, and has shown high growth rate in the elderly population growth pattern, reflected in long-stay institutions for the elderly and may be responsible for result of better response of the elderly in this age group that the study found.
MANUFACTURES SUTURE THREAD: AN ACCESSIBLE ALTERNATIVE TO THE POPULATIZATION OF PRACTICE LEARNING OF BASIC SURGICAL SKILLS

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Background/Introduction: The manufactured production of suture threads was introduced by the Grupo de Pesquisa e Inovação Trauma & Emergência (Trauma and Emergency Research and Innovation Group, in free translation) from the Federal University of Pernambuco. The original idea, introduced by surgeons in Peru, was perfectly adaptable to the Surgical Knots and Sutures Course offered by the group.

Objectives: Upon the scarcity of hospital resources in Brazilian universities and hospitals, the disclosure of the process of manufacturing the suture thread provides an alternative to surmount adversities and enhance medical education.

Methods: The manufacturing process simply consists of 6 steps: (1) introduce the nylon thread inside a hypodermic needle, distributing the greatest portion of the thread in the plastic side of it (needle adapter); (2) over a fix surface mold the needle with a 5 mL syringe, conferring the desired curvature; (3) with the aid of a needle holder detach the needle adapter, beware to do not dislocate the nylon thread; (4) position the future swage end of the needle in the fissure near the needle holder’s joint; (5) when the needle is placed correctly, close the needle holder in order to narrow the swage and fixate the thread; (6) Finally, cut the remaining nylon thread in the needlepoint, which will then confer to the hypodermic needle the appearance and functionality of a conventional suture threat.

Results: The current situation of Brazilian public universities and university hospitals shows the importance of providing alternatives to offer practical learning in suture through a cheap alternative that is loyal to the traditional technique, which confers the opportunity to obtain an excellent basic surgical ability. This method permits a functional proximity with the industrialized thread, which entrusts a great didactic value to this instrument. Also, it allows the use of a variety of tissues from synthetics to organic and several suture techniques. It is important to add that this suture thread is for educational purposes (not for in vivo application) and therefore is exempt from the need for sterilization, which further adds practical and rentable value to this material. The manufactured threads bring an economy of almost 48% in the costs of resources for suture practice in comparison with the standard material, and the reduction of
cost allows a more frequent suture practice by medical students. This innovation has been essential, providing high qualification and dexterity to students' surgical movements.

**Discussion/Conclusion:** Therefore, the suture techniques, a doctor's basic ability, has to be introduced from the beginning of the medical course and refined throughout it. Also, the manufactured and artisanal threads are an alternative less expensive and with functional quality, which permits a broad access for medical students promoting the popularization of primary surgical learning.
A MSF DOCTOR’S LEGACY IN ETHIOPIA: MEDICAL HUMANITARISM AND ETHICSMANUFACTURES SUTURE THREAD: AN ACCESSIBLE ALTERNATIVE TO THE POPULATIZATION OF PRACTICE LEARNING OF BASIC SURGICAL SKILLS

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Background/Introduction: For a long time humanitarian medicine has been put aside in favour of financial market-guided medical care. Society has been through an extended process of medicalisation which has increased the development of professionals seeking exclusively personal benefit. NGOs such as Doctors Without Borders (MSF) try to reverse this conjuncture by stimulating humanitarian aid to the groups that need it the most, mainly refugees.

Objectives: The objective of the work is to analyse narratives of a MSF doctor in what humanitarian work with refugees concerns, relating her experiences to clinical and ethical aspects, highlighting their importance to human rights. Due to the world current situation with constant wars and political uprisings, which produces a great amount of socially disfavoured groups who do not possess access to medical care, it is essential to find ways to bring forth to people how necessary humanitarian medicine is.

Methods: A qualitative study using narrative structure was made. The investigation subject was Melina Gil Thome, graduated in medicine at the Federal University of Health Sciences of Porto Alegre. She has been through several experiences in humanitarian medicine with the indigenous people of the Amazon and was a MSF doctor for 6 months in 2015 in Ethiopia. The method consisted basically of interviews with Melina, with specific questions involving clinical and ethical aspects in regard of refugees, relating the role of MSF in humanitarianism. Beyond that, there was access to photos and videos produced by Melina herself and literature research was made as well.

Results: During her six months of experience in Ethiopia, Melina could verify that the most frequent diseases among the refugees were HIV, tuberculosis, visceral leishmaniasis, severe malnourishment, prematurity caused by anemia in mothers affected by falciparum malaria and malaria with its complications. Beyond that, she could understand the critical situation of refugees. These people have their human rights violated from the moment they left their home
country and went on a journey where they were exposed to a considerable amount of disease and privations until finding a place they could be accepted. In Gambela, Ethiopia, Melina attended refugees who fled from ongoing widespread tribal conflicts in South Sudan. The refugee camp had about 60,000 people.

**Discussion/Conclusion:** The people infected by visceral leishmaniasis, mainly children, were treated by MSF with high efficiency, so that in 2012, the organisation healed 5860 infected. On the other hand, HIV-infected people were dependant on the ethiopian government, which did not authorise MSF to import medicines. Another aspect was that there were no possibilities of blood transfusions, which was the main cause of death among children. Therefore, it is possible to notice the efficiency of the treatment varies according to the disease. Concerning ethical aspects, the MSF mission is to bring medical care to any group that has real need, despite of race, religion or political group, and a refugee fits exactly this definition. Thus, it is intrinsic the ethical question of refugees to MSF. From this, the society must realise the importance of humanitarian medicine and, throughout this perception, reverse the current situation in which the majority of doctors graduate and work exclusively for their own benefit.
RIVERSIDE COMMUNITY OF FORTALEZA: THE CHALLENGE OF PROMOTING HEALTH IN SMALL COMMUNITIES

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Background/Introduction: Considering the extensive land area of Brazil, the heterogeneity of their populations is manifested not only in the cultural, social and economic contexts, but also in the efficiency of health services offered. One of the groups that find more difficulties in receiving health care is exemplified by the riverside communities. Surrounded by forests and on river banks from which derive their source of income, food and transportation, the geographic isolation imposes barriers that often hinders the actions of health professionals and hampers the implementation of public policies. The reality of these populations often make they seek in the medicinal plants the cure for their diseases, when in many cases what they really need is a more specialized care and treatment.

Objectives: Report the experience of intervention activities in the riverside community of Fortaleza-PA and reflect on the current reality of health services offered to this population and what challenges to promote health in small traditional communities in the Amazon, represented by the riverside population of Fortaleza. Understand what is the economic, cultural and social scene of this population and how these indicators interfere in health services and the work of professionals.

Methods: This is an observational cross-sectional study, which consists of an experience report based on the work of a group of medical students, for a period of five days, in the riverine population of Fortaleza-PA community. The group had observation impressions of the riverside area, the contact with locals, health professionals and intervention activities in the community.

Results: During the three days we were housed in Fortaleza community, located in the city of Ponta de Pedras-PA, we were able to get some perceptions about the organization of the local health system. The riverines have a newly expanded basic unit of family health (UBS), Miguel Morais Martins, which has a doctor's office, a nursing practice, a nursing technicians practice and an emergency care, which serves the public from Monday to Thursday, on the following scale respectively: general, child, home visit and general with elderly. Even if a Family Health Unit should have actions of Community Health Workers (ACSs) in the population, according to residents, the visits are sporadic or even non-existent. Throughout our stay, we conducted home visits, fluoride application in children and adults, as well as guidance regarding oral
hygiene, hypertension, preventing breast cancer and balanced diet. During conversations with the locals, we noted the main problem is the lack of prevention of those, who seek care only when they have symptoms. Also, the geographic isolation limit the accessibility of doctors and even the ACSs, leading the population do not seek proper care. The major indexes of worm infections due to inadequate treatment of river water for domestic consumption contribute to a high incidence of diarrheal diseases. According to the residents, the arrival of the Cuban doctors through the "More Doctors" program, even though it presents challenges to be overcome, as the language, it was very important to help a population that had no one to promote their health.

**Discussion/Conclusion:** The experience made us think the biggest challenge in promoting health in traditional communities is the change in locals' mentality to pay attention to prevention. This will only be possible with an efficient primary care, which is not yet implemented, since the majority of the population does not receive visits from ACSs. The activity was extremely profitable for our professional qualification, as showed the humanized side of medicine and how it is essential for these populations. It also added social values to insert ourselves in a reality that we did not know, living with the locals and seeing how much they are need, even of citizenship.
LIGA ACADÊMICA DE PROPEDÊUTICA MÉDICA DA FACULDADE DE CIENCIAS MÉDICAS DA SANTA CASA DE SÃO PAULO

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Background/Introduction: "What happens in a society that puts more emphasis on IQ and class-standing than on simple matters of tact, sensitivity, perceptiveness, and good taste in the management of the suffering? In a professional society where the young medical student is admired for his research and laboratory work during the first years of medical school while he is at a loss of words when a patient asks him a simple question?" Elisabeth Kübler-Ross, On death and dying

Objectives: Propaedeutic League is an extension project, whose interest is to complement our medical training. Increase the ability to perform diagnoses based on signs and symptoms presented during the consultation and improve essential use of complementary exams. It also aims at achieving a greater success rate in patient’s treatment. Management and treatment focused on personal context and individualization will be explored.

Despite the huge progress and technological development in Medicine, there is an immutable dogma: a good medical-patient relationship. Therefore, this project, Liga Academica de Propedeutica Médica, is based on three pillars: medical knowledge for solving clinical cases; clinical thinking based on an investigative logic and patient centered medicine. In order to achieve these goals we rely on long-established customs: An excellent relationship with patients, a full anamnesis and a thorough physical examination.

Methods: In this new era of Medicine, the patients have started to empower themselves on how to improve their own health. Thus, changing the old relationship between doctor and patient, in which the doctor’s opinion was unquestionable. Now the final decision regarding medical issues belongs to the patient. We believe that this change increases the necessity of the return of Semiology as the center of medical teaching. Thus, the conquest of essential communicational skills should be acquired during medical training. It is clear that despite many assertive diagnosis and efficient behaviors, doctors are poorly evaluated by their patients due to the little empathy developed in consultation as well as the lack of physical and verbal contact,
all of these issues results in an unfavorable view towards the physician. We propose a behavioral change in the physician attitudes to improve these issues.

**Results:** Adequate contact in the Physical Examination, Individualization of the patient, Creation of a good relationship between physician and patient and Support patient empowerment always aiming at a greater adherence to treatment and freedom of choice are skills that we should achieve using the patient centered Medicine through modern methods of medicine learning.

**Discussion/Conclusion:** The use of short and dynamic classes, hands on practice learning, clinical cases discussions using the technology, workshops, video lectures and medical-cultural learning based in “PintOfScience” project, are the main way to teach what we judge to be essential.
USING Plickers AS A LEARNING TOOL

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Background/Introduction: The use of active methods have been proving effective in transition from supporting student to protagonist in their teaching / learning process. The search for new methodologies of these proved to be important from the confirmation that learning methods involving self-initiative are more durable and solid for achieving effective and intellectual dimensions. The Plickers, as a representative of this methodology, have been an effective teaching tool and easy to handle. Being an anonymous method of voting, the Plickers aims to encourage students participation in the classroom with less exposure and therefore more comfortable experience, especially for the shy students. Thereby the stimulus to participation of the student is given a much more effective and lightweight form.

Objectives: Our objectives were to test whether plickers could be useful in a discussion of content in the classroom. Thus making the student protagonist of their learning.

Methods: To use the method at first must have the application on a mobile or tablet so that answers can be scanned by the camera in real time. Then in the website’s method are mounted slides with the questions selected for the students’ evaluation. Completed these steps, each student receives a card registered in your name with four different response options and none of the cards is equal to each other. After following these initial steps, Plickers methodology can be used. Some advantages are: every question from the program only goes ahead if all registered cards have voted; While the cards are scanned, the evaluator can see which students are missing or hitting that answer; In the end, graphs are generated relating to student’s responses that help to identify the main classroom’s difficulties and facilities, being able to share these findings with the class so they can understand where they need to improve; a reporting site saves all graphics so that at any time they can be revisited.

Results: During these experience, the method has proven very effective as a teaching way since the discussion in the classroom has become more dynamic. As a method of anonymous voting, mainly in the module 1, being newcomers to the university students, it was possible to perceive a greater involvement in the weekly discussions.
Discussion/Conclusion: Earlier in 2016, the Extension Project- Project Student to Student (PSS) implemented the Plickers as a way to improve the teaching / learning process in modules 1 and 4 of UniFOA’s medicine course. These modules were chosen because they require a change in the profile of the student who passes a basic setting for an essentially clinical setting. So on, Plickers shows an effective teaching methodology and easy to handle. Because of that, Plickers is a great active teaching tool to stimulate students with lower exposure, becoming the experience more comfortable during teach sections which enhances the teaching / learning process.
THE USE OF MOCK TRIAL AS A TEACHING METHODOLOGY

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Mentor name: Sônia Cardoso Moreira Garcia

Background/Introduction: The active methodology is an educational conception that encourages critical-reflective teaching-learning process in which the students participate in their own learning and are committed to it. Assuming that by promoting active student participation, knowledge is transmitted and fixed in a better way, the use of a “mock trial” is an interesting methodological tool to promote the exchange of ideas amongst students with issues relevant to discussions proposed in class.

Objectives: The Simulated Jury (Mock Trial) aims to increase academic participation through discussion of issues relevant to society and medicine, developing critical thinking in students, expanding their abilities of reasoning, speaking, persuading, organizing ideas and respecting the opinion of others.

Methods: The method relies on the organization of the students into groups, two of discussants (with the same number of people), who have opposing views regarding the discussed case, and one responsible for the verdict (the jury - with a smaller number of components). The role of the prosecutor of the debate is to coordinate the practice, limiting the time for each group to defend its thesis and attack the argument put forward by the opposing group. The process begins with the launch of the theme proposed by the discussion prosecutor. Possible issues to be addressed within the context of medical education are: (1) medical ethics in clinical settings; (2) the choice of a conduit within a case; (3) euthanasia; (4) abortion; among other topics. It is given a start time for students to organize their information in the group before the start of the debate. From there, each group launches its initial thesis, defending its point of view every time there are replies and rejoinders. The prosecutor, can also launch questions that motivate the debate. Finally, each group has a time for the closing remarks. The jury then meets to discuss his notes made during the activity, and declare the veredict.

Results: The methodology of Simulated Jury (Mock Trial) was recently introduced as a teaching tool, improving the Extension Project TAPA 4 – Work of Academic for Academic, which promoted such experience with the module 4 of the UniFOA medical school. By the
recent experience, we can see the active participation of students, with good capability of discussion in the issues proposed, and greater chances of fixating the addressed content.

**Discussion/Conclusion:** Because this method is practical, highly participatory and causes mobilization of the whole class, the Mock Trial can be considered a relevant tool in the implementation of active methodology in the teaching process. Besides, this method promotes the personal growth of the academic, optimizing its capabilities of critical thought, argumentation, speech, persuasion, organization of ideas and respect for the opinion of others.
DEVELOPMENT OF A HEALTH EDUCATION PROJECT FOR CHILDHOOD OBESITY PREVENTION

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Background/Introduction: Obesity is characterized by excessive accumulation of body fat in the individual, being a risk factor for several disorders such as hypertension, cardiovascular disease and type 2 diabetes. Due to an overall increase in obesity cases, the World Health Organization (WHO) described it as one of the most serious public health problems of the XXI century.

Data from the Food and Nutrition Surveillance System (Sisvan) show that almost 25% of young people accompanied by the public health of São José do Rio Preto are overweight or obese.

Objectives: Aware of this reality, students of the Faculty of Medicine of Sao Jose do Rio Preto - Famerp promoted an obesity awareness campaign in a primary education school at São José do Rio Preto.

Methods: Before the campaign, the 23 FAMERP's medical students, were trained by guidance professionals. The action took place in October in a São José do Rio Preto public primary school, with 72 children aged between eight and ten years old and was based on the teaching lifestyle and healthy eating, from games and integrative physical activities.

Results: The campaign worked in health education of 72 students from a public elementary school, bringing in a fun, relaxed and effective way, the essential learning about nutrition and the importance of physical activity for the promotion and prevention of health of young people and their families, aimed at preventing obesity.

Discussion/Conclusion: The campaign contribute to awareness children about the importance of healthy nutritional habits and regular practice of physical activities to promote a healthy way of life, and to avoid chronical diseases.
BODY DONATION PROJECT UNIFOA

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Background/Introduction: Human anatomy is the science that studies the morphology of human beings and, due to its extreme importance, it is embedded in the curriculum as a compulsory component in health courses. The contact of the student with the body has an aspect not only as technical learning, but also of reflection on how to deal with death. However, the complexity of current laws led the routing of these bodies to colleges to be increasingly difficult.

Objectives: Discourse about the realization of the project "Body Donation" of the University Center of Volta Redonda (UniFOA) started in 2015 and underline its importance to the teaching of medicine and other courses in the health area.

Methods: At first, searches were conducted in the indexing databases SciELO and LILACS, from January 20 to June 27, using the following search phrases: a) Voluntary body donation; b) Medical study of anatomy. Articles about the study of anatomy through human cadavers and projects undertaken for the voluntary donation of bodies were included. However, articles about projects that were not from Brazil were excluded.

Afterwards, the following documents were prepared: donor registration form, organ donation term and remains and the giver of testimony, informed consent to the donation of the body by the donor and informed consent for the donation of the body by family. The development of they was of crucial importance for the project to start.

Results: Five scientific articles were chosen, in where it was possible to knowledge of similar projects carried out in some medical schools in Brazil. Thus, it was found how to proceed by these projects already in follow-up, as well as its challenges, such as the development of the necessary documentation for the validation of each donation process. In view of this, the following documents were prepared: donor registration form, organ donation term and remains and the giver of testimony, informed consent to the donation of the body by the donor and informed consent for the donation of the body by family. The development of these was of crucial importance for the project would start. After the organization of the necessary documents, information material was made to publicize the project to the Volta Redonda community.

Discussion/Conclusion: In the prepared leaflets was included important information to the ones who could be interested in the process of donation. For this, were added the telephone for
contact of the Anatomical of UniFOA and instructions for the ones that could be interested. Surprisingly, many people were interested in knowing about the project, since they were only aware of the organ donation project due to its wide disclosure through the mass media. Therefore, it was found that the number of people who were already organ donors was very significant. Thus, after that, have been accounted for 4 people who came in contact with the anatomy of UniFOA and who have taken the documentation. In conclusion, it was noticed that the “Body Donation Project” was essential to change the perception of the students about various concepts linked to the death acceptance process. Moreover, the work was responsible for encouraging students, consistently and proactively, to substantiate other future actions aiming to improve and enhance the quality of medical education.
UNDERGRADUATE TRAINING IN MEDICINE FOR CANCER DIAGNOSIS CHILDREN AND YOUTH

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Mentor name: Carmem Maria Costa Mendonça Fiori

Background/Introduction: Cancer is considered a rare disease in children. In our country, many patients are still referred to the treatment center with disease at an advanced stage, it may be due to several factors, in which we highlight: misinformation of parents, fear of cancer diagnosis, disinformation of doctors and health professional and sometimes due to the tumor’s characteristics. The suspect of the disease must be present health professionals’ thinking, which will pay special attention to certain signs and symptoms, thus promoting recognition and faster referral of these patients to a specialized service.

Objectives: Stimulate majoring in medicine to participate in early detection programs, contributing to their professional training and providing the closer interaction with society, contributing to issues related to Children and Youth Cancer. Promote knowledge of health professional of Cascavel Basic Health Units on Children and Youth Cancer. Increase the child’s chance of cure and teenagers with cancer through the early referral of a suspected case.

Methods: The training for medical students in the early diagnosis program child and youth cancers occurred in four meetings between October 2015 and May 2016. For the classes expository materials were used containing information about the unique health system and their access the early diagnosis of childhood cancers. It is noteworthy that were addressed epidemiology items, etiology, pathophysiology, clinical presentation, diagnosis imaginologic, laboratory and immune. In all meetings tests were performed between the present students to grade their knowledge of the subject matter covered in the training.

Results: Trained scholars understood positively the importance of early diagnosis of childhood cancers. From then, they are able to carry out the activities of the university extension program Diagnóstico Precoce do Câncer Infanto-juvenil em Unidades Básicas de Saúde de Cascavel-PR

Discussion/Conclusion: Through this training the students are able to participate in the university extension program Cancer Diagnosis Children and Youth in the Basic Health Units of Cascavel-PR and disseminate the knowledge acquired during the training. From this, it is expected that the child cancer is detected early and reach to the center of reference in the shortest time possible.
CHILD OVERWEIGHT AND OBESITY ASSOCIATED WITH DIET AND PHYSICAL EXERCISE IN CASCAVEL-PR

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Mentor name: Marcos Antonio da Silva Cristovam

Background/Introduction: The prevalence of childhood overweight and obesity is multifactorial and is increasing in the last years. Poor nutrition and insufficient exercise represent environmental factors in the development of overweight and obesity in the population analyzed confirming the multifactorial. Indeed, the literature reports that in the medium and long time the presence of excess weight is related to metabolic syndrome.

Objectives: To assess the prevalence of overweight /obesity in a child population and environmental factors (physical activity, food) associated in an analysis of 69 children from one to thirteen years in the city of Cascavel - PR, through the data of a extension project developed by the school of Medicine of State University of West called “Medicine in the Square”.

Methods: The survey happened on October 18, 2015, in the central square of Cascavel’s city, Paraná. For the study was used a questionnaire, a mechanical personal scale G-tech SportR, capacity up to 130 kg, and a conventional tape measure.

Results: Sixty-nine children was evaluated, the most of them was ranked as overweight or obese (above the reference values), values well beyond the values for adults. Among the participants in group A (from zero to five years old) only one of the eleven children with high weight (four considered overweight and seven obesity) reported practicing some physical activity. In group B (six to fifteen years), this value became more significant, four of the six overweight (two overweight and four obesity) practiced physical exercise regularly, three to five times per week, even if only in the educational institution they attend. In relation to food, with the data of daily meals, most children said they make the daily meals with ideal frequency, but two children in group B that have changes in weight and daily food frequency twice and eight times, respectively.

Discussion/Conclusion: It was possible to establish that between the children studied, the physical exercise was not in adequate levels as a non-pharmacological treatment for physical conditions analyzed. This was most evident in group A, where only one child out of 11 (9%) reported exercising regularly. However, this number increased in group B to 67%, which may indicate an increased concern for health at older ages.
In relation to meals, it was not possible to establish monitoring relationship only with the number of daily meals data, because both the kids with changes in weight as those within the stipulated parameters have an average at meals near the number four, not reaching the ideal for human development (three main meals and three interspersed among those).
ATTENTION IMPROVEMENT TO PREVENTION AND EARLY DETECTION OF CERVICAL CANCER IN BASIC HEALTH UNIT NAVEGANTES, PELOTAS - RS

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Mentor name: Westphalen, S.S. - HCPA

Background/Introduction: Cervical cancer is the third most frequent cancer in women in Brazil. Therefore, we developed an intervention to improve early detection of cervical cancer in Basic Health Unit Navegantes (BHUN), in Pelotas - RS, Brazil. The target population for assistance was estimated at 780 women from 24 to 64 years old. The intervention included actions, educational activities with patients, and health professionals training, seeking to improve quality and increase early detection of cervical cancer.

Objectives: This project objectives included: to expand the coverage of the early detection program for cervical cancer in BHUN; to improve quality of early detection program for cervical cancer; to increase adherence of patients to the follow up; to establish satisfactory specific medical records; to conduct proper risk assessment for cervical cancer; and to promote health in the early detection program for cervical cancer.

Methods: The intervention was performed during 12 weeks, in 2014, in BHUN. The project was based on 2013 Brazilian Health Ministry protocol for control of cervical cancer. It included staff members training, establishment of an individual medical data record, monitoring of all Papanicolaou tests results and suitability of the tests samples. We also verified the risk factors for cervical cancer and secured the appropriate follow up for each patient. Patients received orientation on prevention of sexually transmitted diseases and risk factors for cervical cancer.

Results: The implementation of this project resulted in increase of the coverage of the program for early detection of cervical cancer, from 5.5% in the first month, to 19.6% in the third month. There was improvement in the quality of the medical care, with 100% of satisfactory Papanicolaou test samples. Only two women obtained abnormal tests. One of them was already in specialized medical monitoring and the other had the appropriate follow up. All assisted women had medical data registered during the attendance and were oriented about risk factors for cervical cancer and sexually transmitted diseases.

Discussion/Conclusion: Most of the initial goals of the project were achieved due mainly to the training of staff professionals, who applied their knowledge in all attendances since then. Moreover, the specific medical records allowed better control of service. However, in order to increase coverage, it is required to increase the number of community health agents, to enable
the active search of defaulting women in care and with delayed exams. Furthermore, it is necessary more adequate physical space (gynecological rooms) to increase the amount of schedules. Finally, this intervention was very beneficial for the community, in order to improve information, structure and quality of this specific medical care.
TEDDY BEAR HOSPITAL: THE CHILD CONTACT WITH FUTURE DOCTORS

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Mentor name: HALLAL, C. - UFPel

Background/Introduction: The Teddy Bear Hospital Pelotas project works by helping the children to reduce their anxiety in medical care and to improve the doctor-patient relationship. The project was created in Austria by the International Federation of Medical Students Association and during the mid-90s, it was brought to Brazil. In 2011, the Teddy Bear Hospital was held at Universidade Federal de Pelotas (UFPel) and, in 2016, it is propagated following changes and extensions of previous years.

Objectives: To reduce children’s anxiety in a medical appointment. To emphasize to children the importance of taking care of their health. To donate teddy bears to children in public schools or orphanages. To provide to medical students the opportunity to engage themselves with children of different ages.

Methods: The group Teddy Bear Hospital Pelotas is composed by medical students from UFPel. The members participate in a lecture given by the coordination board and a pediatric psychologist explaining the dynamics of the activities. The activities are perform with children between three and eight years old, from public and private schools. The children enter in a circuit composed by medical care, radiological examination, washing hands, surgery and drugstore. They are taught to properly wash their hands and it is emphasized the importance of vaccination, to take medications only with a prescription and to follow medical guidelines. Moreover, during the surgery, they can touch and learn the names of the organs inside of a big teddy bear with a ventral opening. A project’s member wears the Teddy Bear costume and interacts with the children. In the end of the circuit, an evaluation of the project is made by the children and the project’s members.

Results: Since the beginning of the Teddy Bear Hospital – Pelotas project, in 2011, 22 schools were visited (11 public and 11 private). About 300 children participated in the circuit. Since the first moment, the children were curious and excited with the materials arranged in the room; a few were shy. But in the end of the process, all of them were engaged, interacting with the project members. When the children are asked in the final evaluation, all of them express the desire to participate again in the project. Concerning the project participants, some of them reported to have acquired greater confidence to interact with children. Since its implementation in the UFPel Local Committee, the Teddy Bear Hospital project is finding a satisfactory
outcome for the children, so that they are familiar with the medical setting and more prepared to deal with medical procedures.

**Discussion/Conclusion:** It is concluded that the play as a way to transmit knowledge and confidence is having a good acceptance by children and schools. An easy-to-organize project can modify the reality in a simple way and it shows that small actions generate great results.
INTERNATIONAL FEDERATION OF MEDICAL STUDENTS' ASSOCIATIONS (IFMSA) - WHERE THE MEDICINE OF REALITY MEETS THE MEDICINE OF DREAMS

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Background/Introduction: The IFMSA, founded in 1951, is an organization of medical students and run by them on a voluntary basis. IFMSA is the world's oldest and largest independent organization representing associations of medical students internationally. IFMSA is recognized as a non-governmental organization within the United Nations and World Health Organization and as well, it works with the World Medical Association. Currently, IFMSA is present in 119 countries with over one million students represented worldwide.

Objectives: Introduce the IFMSA to the medical students and health professionals worldwide. Disseminate the IFMSA idea. Inspire the future doctors throughout the world and give them a taste of the IFMSA experience.

Methods: This study consists of an experience report of the IFMSA experience lived by the medical students in the Pontificial Catholic University of Goiás.

Results: IFMSA consists of 7 Standing Committees (SC) which 4 cover the following main global health areas: public health (SCOPH), sexual and reproductive health (SCORA), human rights and peace (SCORP) and medical education (SCOME). Those four SC have an important role in changing society in which the medical student is inserted, promoting improvements of both the population and the students themselves. The actions of the SC are divided into projects, campaigns and events (PCE). Campaigns have an aim of punctual action in which the various SC work a theme with unspecific populations. Projects have an extended character, in which a particular theme is worked with a specific population over a period of time. The other 3 SC (SC on Professional Exchange - SCOPE, SC on Research Exchange - SCORE, and SC on National Exchange - SCON) are responsible for organizing exchange programs between medical students throughout the globe. Over 13,000 clinical and research exchange programs occur each year.

Discussion/Conclusion: IFMSA was created to impact the world and to empower its members and prove them idealistic goals can be achieved with readily attainable knowledge, commitment, proper skills and resources. Besides, IFMSA has not only been a dynamic platform of opportunities, but has also served as their voice at the international level. The
IFMSA experience exposes medical students to humanitarian and global health issues; facilitates partnerships between student community and international organizations on health, education and medicine; provides network between medical students worldwide in which they can learn from and be motivated by each other; train medical students to develop the leadership abilities and skills to take on challenges and improve the world around them. In IFMSA, the emphasis is placed on students returning to their local environments with new ideas and the skills to implement them. As a result, future doctors are becoming more sensitive and culturally aware.
USING OSCE AS A TEACHING METHOD

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Mentor name: Gabrielle Aparecida Lopes Reis

Background/Introduction: The evaluation of clinical skills in medical school has been presented as a necessity to ensure quality formation as a way of assessing the basics skills for an assertive professional performance and integrated, highlighting, the clinical competence. The methodology used is Objective Structures Clinical Examination (OSCE), which is useful to evaluate clinical skills to demonstrate sufficiency in interpretation of random contexts in medicine by the extension project Project Student to Student (PSS).

Objectives: Using senior students as evaluators, the use of OSCE is to order the conceptual approach regarding the content and evaluated practices and enables interaction, reception and identification between advanced and younger students, which will ultimately improve the learning process.

Methods: In this evaluation strategy, the students alternate among the stations where real or simulated patients can be found, with the purpose of developing certain procedures that must be the trigger of a sequence of knowledge, skills and attitudes for assertive action. The clinical case is related to the skills that PSS team intend to evaluate the students, and a checklist skills should be use to evaluate in the station. Before entering in this, the evaluated student has adequate time to read the case and the instructions to execute what were proposed. In each station, the student remains a predetermined time, performing the requested task, under the observation of an evaluator student. Through the checklist and the proposed learning objectives, assessment of clinical skills developed is effective. The greatest difficulty of the class are selected by analyzing the test’s results and will be addressed in clinical cases discussion every week in order to resolve the existing doubts.

Results: This methodology was introduced in early 2016 to evaluate the fourth module’s class by extension project (P.S.S.). To continue the project, the next new OSCE, as a new evaluation, will still be made in the end of the period to compare and analyse the results. Although the preparation of this article was done before the end of the period, that comparison should be
made for the data calculation be sufficient for the analysis of the evolution in the performance of academic.

**Discussion/Conclusion:** So on, the use of a practical method for student assessment allows better accuracy in the teaching process. The OSCE model enters this context as a means of realistic simulation that confronts the need for multidisciplinary thinking and problem-solving ability of the student. Moreover, when the students themselves become evaluators, the process becomes more analytical rigidity, for having the point of view of someone who has already been evaluated.
THE COMMUNICATION OF BAD NEWS: AS IT SHOULD BE AND THE RELEVANCE OF THE DOCTOR-PATIENT RELATIONSHIP

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Background/Introduction: The doctor-patient relationship is a complex relationship that involves the exchange of information, of feelings that could be negative or positive, and is considered capable of being adapted by the doctor according to the patients’ needs. The establishment of a good doctor-patient relationship is critical to the communication of bad news due to the possible alteration of perception of individuals in a negative sense about themselves and their future, arousing intense and painful feelings in both the patient / family and in doctor.

Objectives: The objective of this study is to evaluate the importance of the doctor-patient relationship regarding the communication of bad news and how this should be done in order to minimize the emotional distress of the patient / family.

Methods: An integrative review was carried out with articles from SciELO, Lilacs and Medline, using the descriptors Communication of bad news and Doctor-patient relationship. Inclusion criteria were articles published in the last 10 years in English, Spanish or Portuguese that dealt with the topic discussed.

Results: In the communication of bad news, the physician-patient relationship involves interpersonal communication skills, verbal and nonverbal, and if done properly, the family and the patient accept the news better; otherwise, it may lead to legal proceedings. For proper communication, it is recommended following 6 steps: evaluation of patients’ biopsychosocial, the place where the communication will occur and who will be present; finding out how much the patient already knows; how much does the patient want to know; use simple vocabulary and provide all information; respond to the feelings of the patient; and offer biopsychosocial monitoring. Despite this model, how to give bad news may vary with age, gender, cultural, social, educational, a disease that affects the individual, their family background, etc. Health professionals usually have little preparation and skills development for the communication of bad news during their academic training, hampering communication with the patient.

Discussion/Conclusion: Therefore, the effectiveness of the communication process depends on the professional flexibility to use the proper technique in every circumstance in order to minimize the negative impact of the news. Besides, it reinforces the need to monitor the patient’s
rhythm at the time of the news and the establishment of a relationship based on respect, empathy, compassion, solidarity and hospitality.
DEVELOPMENT OF A HEALTH EDUCATION PROJECT FOR CHILDREN AGED FOUR TO SIX YEARS OLD

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Mentor name: Rosana De Gasperi Pagliuso

Background/Introduction: The first important brazilian public policy in children's ambit, which encourages the principles of promotion, prevention and recovery of health, is the Integral Assistance Program for Children's Health (PAISC), created in 1984. It focuses in highly educational actions as its main feature. Corroborating the PAISC, in 2007 the Program Health in School (PSE) was created. It is based in promotion of health education in the school environment.

Objectives: The objective of this study is to evaluate the importance of the doctor-patient relationship regarding the communication of bad news and how this should be done in order to minimize the emotional distress of the patient / family.

Methods: Based on the precepts of PAISC and PSE, the action began with the training of 45 medical and nursing students. The project was developed in five meetings at a public kindergarten school in São José do Rio Preto, with children aged between four and six years old. It worked in a playful way through theater and games with themes as environment, recycling, dengue fever, oral hygiene, hand washing, nutrition and the importance of health professionals.

Results: The project was based on relevant themes of health education and reached 115 children from kindergarten. They learned about major issues of public health in an appropriate manner for the age, leading to a positive assessment of the institution's teachers and children’s families.

Discussion/Conclusion: Due to the project, students of medical school learned techniques to deal with children; those were important skills for undergraduate. The infants gained knowledge on hygiene, disease prevention and the importance of food.

It was concluded that it is extremely important that the faculty perform outreach projects to bring the knowledge generated at the University for the population.
CEIA – ANATOMY’S IMAGING CENTER: THE USING OF TECHNOLOGY IN LEARNING

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**Mentor name:** Bettega, Silvio Gomes – UFPR

**Background/Introduction:** Anatomy’s study is a key component in the curriculum of medical education. Traditionally, visual understanding of the human body is achieved through the clinical and surgical point of view provided by cadaveric dissection. In a study that directly compared the teaching approaches, Stanford et al. it was reported that the combination of dissection and computer based educational tools was one of the most effective teaching approaches than any isolated form. Recently, curricular reforms resulted in reducing the time allocated for the teaching of anatomy in the undergraduate and the study of structural topographic anatomy dissection classes has been replaced by a variety of educational resources, including problem-based learning, plastic models and software. Furthermore, the use of cadavers is surrounded by ethical and practical concerns such as the availability and conservation. According to this scenario, it was created the CEIA – anatomy’s imaging center allowing a deepening of the anatomical study using websites, 3D images, atlas, dissection videos and tests within the university space at the Federal University of Parana.

**Objectives:** The Extension Project CEIA aims to create an Image Center in which it is being collected, translated and offered courseware as well as producing own material in multimedia format and making it available to the students and faculty members. The mains objectives are the creation of anatomical 3D images models of rapid prototyping (RP) and the creation of a digital atlas from computer (CT) scans with emphasis on the study of osteology.

**Methods:** First it will be obtained a sequence of two-dimensional images which will be converted into a file stereolithography (STL) which in turn, will be interpreted by the software of the rapid prototyping machine. After this process, the prototype will be generated using a plastic polymer, this is happening in simultaneous Engineering Center of Technological University of Paraná in partnership with this project. The produced model will be evaluated for the faithful representation of anatomical details. Secondly, to compose the atlas, they are being collected 100 tomographic images of the human upper limb bones in tomo-3D format. The exams will be manipulated to improve the contrast and brightness of images and from there will
be selected the most relevant anatomical accidents of each incidence and electronically tagged in flash format so that the student can handle the images in three dimensions and highlight the structure of interest to display its name according to the nomenclature used by the Nomina Anatomica. After finishing the preparation of the software and revised its contents, the material will be made available to all students in the health area of the University through the computers of Anatomy’s Imaging Center (CEIA).

**Results:** As an outspread of CEIA were performed four University Extension courses called "Correlating Anatomy, Surgery, Internal Medicine and Images", which were used materials from this project as the basis for lectures given by professors from the Federal University of Parana. It also was available a study room for students with simulated tests, atlas, dissecting videos and useful sites for the study of anatomy.

**Discussion/Conclusion:** With this project we seek to democratize the access to knowledge gathered in different media to students of all health area courses of the Federal University of Parana. The production of synthetic material by using 3D printing and softwares is an innovative and interactive alternative teaching, that requires a deep understanding of anatomy and viewing capability, able to motivate students and health professionals to seek knowledge of anatomical structures and whet the curiosity for learning Medical Anatomy, complementing and aiding in better medical training and making the anatomical study more dynamical and interesting.
GINECOLOGY AND OBSTETRICS
CONGENITAL TOXOPLASMOSIS: A RETROSPECTIVE STUDY BY CLINICAL EVALUATION IN PREGNANT WOMEN AND NEWBORNS FROM 2009 TO 2013

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Mentor name: Cinara de Cássia Brandão de Mattos

Background: Toxoplasmosis is a cosmopolitan zoonosis caused by the parasite Toxoplasma gondii, which is usually asymptomatic, but in pregnant women, may lead to fetuses threat of miscarriage or disabilities. Pregnant women infection is analyzed by the IgM and IgG serologies and fetal infection, by the amniotic fluid PCR.

Objectives: The aim of this study was to evaluate the clinical presentation by pregnant women with clinical suspicion of gestacional/congenital toxoplasmosis.

Methods: A retrospective study was conducted and 49 medical records of pregnant women who were treated and attended in High Risk Antenatal Care in Hospital de Base from Fundação Faculdade Regional de Medicina (FUNFARME) a tertiary teaching hospital in the period of 2009 to 2013 were evaluated according to: gestational age, recommended treatment, imaging exams, clinical and laboratoral diagnosis. The laboratorial screening included serology for TORSCH, maternal and fetal diagnosys for T. gondii infection in peripheral blood and amniotic fluid by PCR. 29 records of their potencially infected newborns were screened and investigated: neurological, visual and otologic development and exams, prematurity and recommended treatment.

Results: The average age of the 49 pregnant women was 23,6 ±6,3 (min: 13; max: 39; median: 23); 75,5% (n=37) of the pregnant presented positive serology for toxoplasmosis; 46,9% (n=23) underwent amniocentesis, 20,4% (n=10) had a positive amniotic fluid PCR and 8,16% (n=4) fetal ultrasound scans showed changes (shortened long bones with left eye lens difficult to assess, retrocorionic hematoma and hyperechogenic intracardiac focus). The recommended treatment for pregnant women included the use of rovamycine, spiramycin, or the triple scheme (sulfadiazine, pyrimethamine and folinic acid). Only 23,3% (n=7) of the babies underwent treatment for congenital toxoplasmosis, based on the triple scheme. Among them, babies who presented: positive IgM serology (3,3% with n=1); positive PCR in blood (10% with n=3); suspicion and signs of clinical changes (13,3% with n=4) as cerebral calcifications,
schizencephaly, chorioretinal alterations and prematurity. Epileptiform disorder was also described.

**Discussion/Conclusion:** The numbers of positive serologies show that the prevalence of gestational infection is high. This indicates the epidemiological relevance of toxoplasmosis in the region of São José do Rio Preto. The amount of positive amniotic fluid PCRs confirms a reasonable number of congenital toxoplasmosis infection. Although, the number of children underwent the infections recommended treatment was very low; also the child that presented epileptiform disorder was not underwent to this treatment, only for epilepsy control, disease addressed as possible diagnosis, which included oxiarbazepina, topiramate and trileptal, despite the fact seizures are common findings in congenital toxoplasmosis according to the Ministry of Healths Congenital Toxoplasmosis Guideline made by Fundação Oswaldo Cruz (FIOCRUZ).
THE USE OF SCALE FOR POSTPARTUM DEPRESSION IN ADOLESCENTS’ PREGNANCY: A SYSTEMATIC REVIEW.

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Mentor name: Cleusa Cascaes Dias - Dias, C.C.

Background: Postpartum depression is a public health problem that affects the mother and the newborn, with prevalence between 10 and 20%, affecting 50% of teenage mothers (Barbosa, 2008). In this age its chances to occur are greater the intensity of the physiological, emotional and social changes (Almeida, 2009). According to DSM-IV, postpartum depression is a depressive disorder started between 4 to 6 weeks after delivery, with the same symptoms of major depressive episode (Milanés, 2015).

Objectives: To analyze the according to the major DSM-IV items used in closed questionnaires most commonly used for screening of postpartum adolescent depression, because it comes from a frequent depressive disorder in this age group, the proper diagnosis can prevent complications to the mother and the child.

Methods: This is a systematic review of the literature. First of all, the problem, the research lines and the future recommendations on postpartum depression in adolescence was defined. After the literature review, management and diagnostics were observed, which are used for research scales, it was performed an analysis in this review of the ranges shown in various studies in order to diagnose postpartum depression in adolescent mothers. During the literature review the keywords "postpartum depression", "adolescent" and "scale" were used in the PubMed database, resulting in 412 articles. Exclusion factors were items not analyzed in the scale of the impact of postpartum depression in adolescence on the management and diagnosis of this patient.

Results: The scales for depression have limitations for postpartum depressive symptoms to include symptoms that are physiological of the puerperium, or exclude symptoms related to feelings involved with the care of children (Barbosa, 2008). The Edinburgh Scale of Postpartum Depression (ESPD) is the most widely used for screening depressive symptoms that manifest after delivery (Ruschi, 2007), which has 10 items related to depressive symptoms observed in the postpartum period (Malloy-Diniz, 2010), totaling 30 points, considering at least 12 points of depressive symptoms. In ESPD are analyzed: depressed mood, loss of pleasure in enjoyable activities, fatigue, decreased ability to think, concentrate or make decisions, and physiological symptoms and behavioral changes (Ruschi, 2007). There is a reduced ESPD scale used properly
for screening, with sensitivity of 81% and specificity of 86%, without showing gravity (Malloy-Diniz, 2010).

**Discussion/Conclusion:** According to the revised articles, it can be concluded that teenage pregnancy is a high risk of both obstetrical point of view, neonatal and peculiarities of target. The relevance of postpartum depression in this age group makes it necessary to emphasize the importance of objective screening strategies and easy to apply for the basic network health professional assistance to adolescents. Therefore, the application of these scales, as reduced ESPD allows the detection of early clinical manifestations, enabling the monitoring of the patient to perform the diagnosis of depression. However, it is important that more research be conducted in order to increase the success rate in screening for postpartum depression, especially in adolescence to avoid physiological, social and emotional complications in the mother-child relationship.
COMPLICATIONS OF ASTHMA IN PREGNANCY: A SYSTEMATIC REVIEW

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Mentor name: Cleusa Cascaes Dias

Background: During pregnancy, the exacerbations in asthma are more common (To et.al., 2016); in this situation, asthma shows a varying spectrum of consequences, both for the mother and fetus (Junqueira et.al., 2014). The treatment of a pregnant asthmatic woman follows the same scheme of non-pregnant patients, and the appropriate management of this condition lead to a better outcome to the patient and their offspring (Zanforlin et. al., 2016).

Objectives: This study aims to review the most relevant complications of asthma during pregnancy, correlating the levels of asthma control and severity with exacerbations of asthmatic pregnant women, stimulating thereby further studies on this condition.

Methods: A literature review was conducted in the Google Scholar database using the keywords asthma in pregnancy. This review was restricted to search for English articles containing the keywords in their titles and published from 2014 to 2016. We found 161 results, including quotes. From the analysis of the first papers found, we chose those referred strictly to complications of asthma during pregnancy. Therefore, seven articles were selected and analyzed in full, of which five cohorts and two revisions.

Results: Asthma is among the major causes of hospitalization during pregnancy. Asthmatic patients have severe symptoms during pregnancy and higher exacerbation rates (Murphy, 2014). The association of the disease with complications was significant in pregnant women with severe or uncontrolled asthma (Dymarskayaet et al., 2014). Among these complications are risk of preeclampsia, gestational diabetes, placental abruption, placenta previa, breech presentation, hemorrhage, pulmonary embolism, cesarean section and ICU admission (ALI et. al., 2015). The risks of premature birth and preeclampsia are higher in African, American and Latino pregnant asthmatic women (Lee et al., 2016).

Discussion/ Conclusion: Pregnancy causes increased risk of asthma exacerbations and subsequent maternal-fetal complications. Its clinical course during pregnancy is variable and exacerbations are triggered mainly by poor medication adherence, stress, infectious diseases and inadequate environmental prophylaxis. Ethnicity is a factor that must be observed by the greater risks of preeclampsia and preterm birth in African, Americans and Latinoâ€™s women. However, little is known regarding the influence of ethnicity in the pathophysiology of asthma.
and how it should be an appropriate follow-up of these patients. Asthma adequate control improves the patient's quality of life and prevents adverse events. For this reason, pregnant women should be counseled by health professionals about the importance of management and adherence to treatment. Future research is essential to determine the need for cesarean section in asthmatic pregnant women in order to reduce hospital costs and side risks in the perioperative period.
DELAYS FOR DIAGNOSING AND TREATING BREAST CANCER IN WOMEN AT HOSPITAL SÃO PAULO FROM 2012 TO 2014

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Mentor name: Afonso Celso Pinto Nazário  

Background: Breast cancer represents 2.2 out of 10 new cases of cancer diagnosed each year among women. The incidence in Brazil was 57,120 new cases in 2014 (INCA). The five-year survival rate ranges from 99% for localized tumors to 84% for regional disease and 23% for metastatic disease (Youlden et al., 2012). Patients with delay greater than three months between the first symptom and the beginning of treatment have significantly worse survival rates than patients with lower delays. (Richards et al., 1999)

Objectives: Due to the impact of time to start therapy on the chance of curing breast cancer, the goal of this study is to analyze the delay in the diagnosis and treatment of breast cancer in Hospital São Paulo, a reference University Hospital linked to UNIFESP.

Methods: This is a retrospective study of patients with breast cancer treated at the Mastology Ambulatory from the Department of Gynecology in UNIFESP between 2012 and 2014. Data was obtained from electronic medical records. The following patients were excluded: didn’t do the biopsy or treatment at Hospital São Paulo, had the result of the histopathological from surgery as benign, had insufficient data on the records. Medical records of 3947 women were analyzed, but only 170 were included. The project was approved by the Ethics Committee of the Federal University of São Paulo, with the number of CAAE 55827716.5.0000.5505.

Results: Determining the stages of delay for the beginning of treatment for women with breast cancer allows the establishment of strategies to optimize women's access to treatment. According to Law No. 12.732/12, which is operative since 23/05/2013 (Ordinance No. 1220), the first cancer treatment in the SUS must begin within 60 days from the signing of the pathology report. This research shows how many women fulfill this requirement of the law and is a baseline for further analysis regarding the treatment of breast cancer at the Hospital São Paulo.

Discussion/ Conclusion: There are delays on starting therapy for breast cancer, especially from the first symptom to the consult in a reference medical service, which allows continuity and proper follow-up. To reduce this time, it is crucial to ensure care and referral promptly on suspicion of breast cancer.
EXTRAPULMONARY TUBERCULOSIS (EPTB) IS ANY FORM OF TB THAT OCCURS OUTSIDE THE LUNGS, MOSTLY RELATED TO IMMUNOSUPPRESSION. BETWEEN 2007 AND 2011, EPTB ACCOUNTED FOR 13% OF ALL TB CASES REPORTED TO BRAZILIAN NOTIFIABLE DISEASES SURVEILLANCE SYSTEM. THE MAIN SITES WERE LYMPH NODES (27%) AND PLEURA (10%). TUBERCULOSIS PERITONITIS IS UNCOMMON AND USUALLY RELATED TO PREVIOUS OR ACTIVE PULMONARY TB. ALTHOUGH RARE, PERITONEAL INFECTION CAN ALSO BE CAUSED BY AN ACTIVE TB ON FEMALE REPRODUCTIVE TRACT.

OBJECTIVES: THE OBJECTIVES OF THIS CASE REPORT ARE TO DESCRIBE A CASE OF EPTB, WITH RARE INFECTION FORM, WHICH HAPPENED IN AN ADOLESCENT PREGNANT PATIENT WITH NO COMORBID CONDITIONS; AND WRITE A LITERATURE REVIEW ABOUT DIAGNOSIS, CLINICAL APPROACH, IMAGING TESTS AND ANATOMOPATHOLOGIC ANALYSIS ON THE EVALUATION OF PERITONEAL TB.

METHODS: THE PRESENT CASE REPORT WAS WRITTEN BASED ON MEDICAL NOTES REVIEW, PHOTOGRAPHIC REGISTER OF IMAGING TESTS AND BIOPSY SLIDES THAT WERE PERFORMED, PLUS LITERATURE REVIEW.

RESULTS: A 15-YEAR-OLD GIRL, BORN IN COLOMBIA, LIVING AT BRAZIL SINCE 2011, WAS ADMITTED TO THE EMERGENCY DEPARTMENT PRESENTING 7-DAYS HISTORY OF ABDOMINAL PAIN AND FEVER; PREVIOUSLY HEALTHY, MENSTRUAL IRREGULARITY, CONDOM AS CONTRACEPTIVE METHOD. BY PHYSICAL EXAMINATION DID NOT SHOW PAIN NOR FEVER, BUT A GRAVID ABDOMEN, 23CM FUNDAL HEIGHT, FETAL HEART RATE OF 124 BEATS/MINUTE, CERVICAL DILATION OF 2CM, PARTLY EFFACED, BREECH PRESENTATION. PATIENT UNAWARE PREGNANCY, ON THE SAME DAY ENTERED INTO PREMATURE LABOR, WITH FETAL DEMISE. DURING HOSPITALIZATION, DEVELOPED FEVER, ABDOMINAL PAIN, NORMOCHROMIC AND NORMOCYTIC ANEMIA AND LEUCOCYTOSIS WITH TOXIC GRANULATIONS. LAPAROTOMY WITH PERITONEAL BIOPSY WAS PERFORMED. HISTOPATHOLOGICAL ANALYSIS SHOWED TUBERCULOID GRANULOMATOUS PROCESS WITH CASEOUS NECROSIS; ZIEHL-NEELSON STAIN DETECTED ACID-FAST BACILLUS. ISONIAZID, RIFAMPIN, PyRaziNAMIDE, AND ANDETHAMBUTOL WERE PRESCRIBED, WITH CLINICAL IMPROVEMENT. SHE WAS DISCHARGED AND CONTINUED OUTPATIENT TREATMENT.
**Discussion/Conclusion:** Peritoneal TB presents low prevalence, nonspecific symptoms and many differential diagnosis. Literature research demonstrated that the onset is usually insidious, presenting fever, weight loss, abdominal pain, and ascites. It is frequently seen in patients with liver or renal disease. Routine laboratory studies and radiologic imaging tests are nonspecific. The gold standard exam is culture growth of Mycobacterium on ascitic fluid or peritoneal biopsy, but the result is obtained only after 4 to 6 weeks. The regimen treatment is the same as in pulmonary TB. Mortality varies (8 to 50%) and depends on underlying patient condition and rapidity of diagnosis. The patient above had no previous disease and did not develop ascites. The main diagnostic hypotheses were, at first, chorioamnionitis and puerperal endometritis. Culture growth of Mycobacteria on peritoneal biopsy was positive, but the treatment started right after Ziehl-Neelson stain showed acid-fast bacillus.
COMPARISON OF CASES CONFIRMED AND THE PREGNANT WOMEN MORTALITY INFLUENZA VIRUS H1N1 AND CONDUCT ON PRENATAL IN THE YEARS 2009 AND 2016 IN BRAZIL

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Mentor name: Maria Mônica Pereira

Background: Influenza A virus subtype H1N1 is an aetiology responsible for many cases of febrile respiratory infection in the world. It is known that pregnant women are among the risk group if present more susceptible to complications and higher mortality rates because of the number of physiological changes from the mother during pregnancy, particularly immune system depression and decreased lung capacity. The main impacts occur in the 2nd and 3rd trimester of pregnancy and are very associated with prematurity and low birth weight for gestational age.

Objectives: Compare the confirmed cases and deaths in pregnant women with the virus Influenza A H1N1 in Brazil in 2009 and 2016, analyzing the conduct prenatally.

Methods: Databases MedLine / PubMed were consulted, LILACS / SciELO, Cochrane and Scopus library for national papers, and the best available scientific evidence, along with government statistics DATASUS and SINAN. The descriptors used were " pregnant women and H1N1 " , " prenatal and H1N1 " and " H1N1 ".

Results: In 2009, the total number of deaths in pregnant women by Influenza in Brazil, due to Severe Acute Respiratory Syndrome, was 309 cases. In this year 2016, there were 22 deaths to the epidemiological week 25 (June 25, 2016). Analyzing the confirmed cases of H1N1 in 2009 there were 6320 prevailing in pregnant women in the 2nd and 3rd quarter and mainly in the South and Southeast; in 2016 it was not possible to collect the confirmed cases in pregnant women to date, but remained the same characteristics as the region and gestational age.

Regarding prenatal care, there was no significant changes between the conduct of 2009 and 2016, and the best approach in pregnant women is the guidance for the detection of the first symptoms and the rapid demand service, making treatment with the antiviral Oseltamivir addition of immunization; highlighting the role of the 2009 public health policy to date.

Discussion/Conclusion: In this way, we analyzed that the cases of H1N1 in 2009 are higher compared to the moment, but still present considerable mortality rates in 2016 compared to other years. In addition, we emphasize the importance of prenatal care and proper guidance on the H1N1.
PEDIATRICS
CHILD OVERWEIGHT AND OBESITY ASSOCIATED WITH DIET AND PHYSICAL EXERCISE IN CASCAVEL-PR

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Background/Introduction: The prevalence of childhood overweight and obesity is multifactorial and is increasing in the last years. Poor nutrition and insufficient exercise represent environmental factors in the development of overweight and obesity in the population analyzed confirming the multifactorial. Indeed, the literature reports that in the medium and long time the presence of excess weight is related to metabolic syndrome.

Objectives: To assess the prevalence of overweight /obesity in a child population and environmental factors (physical activity, food) associated in an analysis of 69 children from one to thirteen years in the city of Cascavel - PR, through the data of a extension project developed by the school of Medicine of State University of West called “Medicine in the Square”.

Methods: The survey happened on October 18, 2015, in the central square of Cascavel’s city, Paraná. For the study was used a questionnaire, a mechanical personal scale G-tech SportR, capacity up to 130 kg, and a conventional tape measure.

The questionnaire regarding to the child contained the following data: name; sex; age; weight measured in kilograms (Kg); height measured in meters (m); Body Mass Index (BMI); waist circumference measured in centimeters (cm); education; frequency in Basic Health Unit (UBS); presence of previous diseases; number of daily meals; physical exercise, if confirmed, what type of activity and the frequency in which it was practiced; presence of pets in the house, and this case, which the type and quantity. Overweight and obesity was defined as body mass index bigger or equal to the 85 and 95 percentiles for age and sex, respectively.

Results: Sixty-nine children was evaluated, the most of them was ranked as overweight or obese (above the reference values), values well beyond the values for adults. Among the participants in group A (from zero to five years old) only one of the eleven children with high weight (four considered overweight and seven obesity) reported practicing some physical activity. In group B (six to fifteen years), this value became more significant, four of the six overweight (two overweight and four obesity) practiced physical exercise regularly, three to five times per week, even if only in the educational institution they attend. In relation to food, with the data of daily meals, most children said they make the daily meals with ideal frequency,
but two children in group B that have changes in weight and daily food frequency twice and 
eight times, respectively.

**Discussion/Conclusion:** It was possible to establish that between the children studied, the 
physical exercise was not in adequate levels as a non-pharmacological treatment for physical 
conditions analyzed. This was most evident in group A, where only one child out of 11 (9%) 
reported exercising regularly. However, this number increased in group B to 67%, which may 
indicate an increased concern for health at older ages.
Background/Introduction: The city of Canudos, located in northeastern Bahia, despite a past that gained prominence in the history of Brazil, currently has high levels of poverty and it impacts on the health of the population, affecting the nutritional status of preschool children living there, especially for children from low family income (LFI). The relevance of this work lies in the fact that there were not found publications about any health aspect in the city of Canudos.

Objectives: The aim of this study was to evaluate the nutritional status of preschool children in the city of Canudos-BA in order to serve as a basis for planning a social intervention to be carried out by medical students of UNEB in the second half of 2016. The specific objectives were to evaluate the correlation between family income and children's food quality and to identify the main risk factors related to non-breastfeeding in the municipality.

Methods: This is a cross-sectional observational study of a convenience sample, held at the city of Canudos in the first half of 2016. The activity was carried out by three medical students of UNEB who were attending the curricular component Integration Program and Community Service Academy (PIASC IV). Questionnaires were applied to those responsible for children from birth to five years old. The questionnaires consisted of ten questions, presenting six multiple choices questions and four dissertative questions. The average application time was 5 minutes. To perform the analysis, the children from public schools were considered such as from LFI. The tabulation and analysis were made using the Excel tool (2013). For the theoretical framework, we used the data search plataform Scielo and Lilacs, using as key words "child nutritional disorders", "child preschool" and “breastfeeding”, published between 2011 and 2016, and found 60 articles, 3 were used in this work.

Results: The sample was 77 children between 0 and 5 years old, the average age was 3.3 years and the median was 3. Forty-one children attended private schools (PS) and 36 children belonged to families with low family income (LFI). The responses showed that 21.95% of the PS children were never breastfed, 17.07% were breastfed no more than 6 months, 26.82% up to 23 months and 34.14% to at least 2 years of age. The results equivalent to those of LFI children were 8.3%, 33.33%, 38.9% and 19.4%, respectively. Among the children from PS group who
received breastfeeding, 33.33% were breastfed for less than 6 months and 66.66% for at least 6 months; with respect to the other group the figures were, respectively, 40.6% and 59.4%. Frequent intake of vegetables became present in the meals of 45.00% and 36.4% of children PS and LFI respectively.

**Discussion/Conclusion:** The food quality of children from Canudos seems to be related to the educational level of their parents and the socioeconomic status of their families. Most children, PS or LFI, have inadequate intake of vegetables, which was slightly higher in children from PS. It was noticed that the foods cited concerning children from LFI, were in most rich in carbohydrates and low nutritional value, possibly due to the lower price of these foods. In addition, 15.6% of children were never breastfed and 27.27% were not up to two years of age, as recommended by the OMS¹. Of that number, the percentage of mothers with lower income that never breastfed was less than mothers of children from PS, which may be explained by lower income from those. Therefore, it is clear the need for social intervention to guide parents to provide a balanced diet to their children to avoid future health problems such as malnutrition, obesity and diabetes.
SAFETY PROFILE COMPARISON OF ANTIDOPAMINERGIC PROKINETIC AGENTS IN PEDIATRIC PATIENTS

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Background/Introduction: Antidopaminergic prokinetic agents (metoclopramide, domperidone, bromopride, levosulpiride, clebopride, etc.) are widely used in pediatrics as antiemetic and in the treatment of Gastroesophageal Reflux Disease. However, D2 receptors antagonism may lead to serious side effects, such as extrapyramidal reactions, which occur with greater susceptibility in children. Thus, it is important to know such drugs in order to draw a comparison between their security profiles, and set safer therapies.

Objectives: To perform a study of the major antidopaminergic prokinetic agents used in pediatrics, drawing a comparison between their security profiles, according to their side effects.

Methods: This is a literature research, with data search in the PUBMED platform, searching for articles with publication subsequent to January 2005. The keywords used were "prokinetic agents" and "pediatrics". 14 articles were found, and they were all used.

Results: Acute and late dystonia are the most common and serious clinical manifestations related to extrapyramidal reactions. There are reports of acute dystonia using all antidopaminergic drugs, the largest number of cases related to the use of metoclopramide (about 25% in children) and clebopride (4% when chronically used). In patients with adequate clinical use of levosulpiride and bromopride, dystonic reactions occur in less than 1% of cases. However, despite the low number of reported cases, it is not possible to say that bromopride is safer than the others, because scientific studies proving its safety profile are scarce. To date, domperidone is described as the drug with the highest safety profile compared to the others, since by its low penetration of the blood-brain barrier, the incidence of extrapyramidal symptoms is rare.

Discussion/Conclusion: The incidence of adverse effects varies according to the different drugs, and domperidone is the drug with the greatest safety profile compared to the others due to its low penetration of the blood-brain barrier, with rare occurrences of extrapyramidal symptoms.
THE USE OF THERAPEUTIC HYPOTHERMIA IN THE APPROACH OF HYPOXIC-ISCHEMIC ENCEPHALOPATHY IN NEWBORNS AT AN INTENSIVE THERAPY UNIT IN BELO HORIZONTE

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Background/Introduction: Hypoxic-ischemic encephalopathy (HIE), secondary to perinatal asphyxia, is related to an elevated mortality (10 to 60%), besides endangering neurologic and systemic functions in at least 25% of survivors. This way, its approach must be precocious and assertive, being therapeutic hypothermia (TH) an alternative which has shown its safety and efficiency in dealing with newborn (NB) children who have moderate to severe HIE.

Objectives: To present the experience working with TH and its impact on the reduction of mortality and neurologic consequences in NB with moderate to severe HIE.

Methods: A review of medical records was done on NB submitted to TH in the period from 01/01/2015 to 05/31/2016, and the following evolution of it until the present date. The protocol of TH is indicated in NB older than 35 weeks, with evidence of moderate to severe HIE. The cooling of all the body is done using ice bags, starting in the first 6 hours of life and kept for 72 hours, aiming to keep esophageal temperatures between 33 to 34°C. Posterior to that, NB is reheated gradually for the next 24 hours.

Results: Eight NB were submitted to TH, five in 2015 and three in 2016. One NB from 2016 has died and the others presented mild alteration in neurologic development, with no signs of cerebral paralysis up to now. The neurologic findings are as follow respectively: 1.normal neurologic examination, 2.discreet disorganization, 3.mild global hypotony, 4.mild hypotony of limbs. In NB of 2016, the findings are as follow respectively: 1.seizures of difficult control and spastic quadriparesis, 2.persistent coma (Glasgow 3) and generalized hypotony, 3.mild limbs hypertonia. Neuroimage exams were realized in all NB and showed alterations, except for one NB from 2015 and one from 2016. Five NB showed seizures in the early days of life and two developed epilepsy, one of difficult control. No therapeutic hypothermia was interrupted before conclusions and main adverse events were bradycardia and hemodinamyc instability, responsive to amines.
Discussion/Conclusion: The experience with TH in our maternity, although initial, has shown good results in short and medium term in five of the seven NB survivors and two unsatisfactory outcomes, one with precocious evidence of cerebral paralysis and another with persistent coma. Considering the impact of neurological lesions of HIE, we believe that TH is an effective and safe alternative, which must be encouraged and tried in Neonatal Intensive Therapy Units.
WAARDENBURG SYNDROME: A CASE REPORT

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Summary/Background: Hearing loss is the most common type of sensory disorder in humans. Environmental or genetic factors can cause the loss. Waardenburg Syndrome, a genetic disorder with autosomal dominant pattern, is highly penetrant with variable expressivity and represents about 3% of cases of hearing loss in children. The purpose of this case report is to describe and discuss a case of Waardenburg Syndrome (WS), from the data of the medical record of the patient, after obtaining of informed consent signed by the patient's father.

Case Presentation: Patient, Y.L.O, aged 3, female, came to medical consultation accompanied by father to the ambulatory neurology of AAPPE (Associação de Amigos e Pais de Pessoas Especiais) in Maceió–AL. Anamnesis, neurological exam, otoscopy and audiometry were performed. The patient was referred to the service with the complaint of intellectual disability and hearing impairment.

Diagnostic and Therapeutic Focus and Assessment: Moderate mental retardation was noted in the examination performed. In addition, hypopigmented and brilliant blue irides, telecanthus, thick eyebrows with medial flare, white forelock, broad nasal root and hypoplastic nasal alae were noted in inspection. Otoscopy was normal with intact tympanic membranes bilaterally. Pupillary, direct photomotor and consensual reflexes were preserved. Audiometry showed deep bilateral sensorineural hearing loss. Father reported family history with similar characteristics (first degree cousin).

Follow-Up and Outcomes: Waardenburg syndrome is a genetic disease with autosomal dominant pattern. Incidence varies between 1: 30000 and 1: 42000. In this case, the following major criteria were found in the patient: congenital sensorineural hearing loss, white forelock, brilliant blue iris, telecanthus and first-degree relative affected; and minor criteria: broad nasal root. Thus, the clinical diagnosis was confirmed by five major criteria and one minor, according to the standards established in the literature.

Discussion/Conclusion: Early diagnosis of the syndrome allows proper stimulation for hearing loss, as well as preventive measure, in case of affected pregnancies. Folic acid supplementation during pregnancy has been recommended for women with a higher chance of having a child.
with WS due to increased risk of neural tube defect associated with this syndrome. In addition, family should benefit from genetic counseling after this diagnosis, especially because it is an autosomal dominant inheritance, which majority of patients have an affected relative.
SETLEIS SYNDROME: A CASE REPORT

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Summary/Background: Setileis Syndrome, also known as Bitemporal Forceps Marks Syndrome, Facial Ectodermal Dysplasia or Focal Facial Dermal Dysplasia III, is a rare genetic disease, caused by mutations on gene TWIST II that may be inherited as an autosomal dominant or recessive trait. It was first described in 1963 in five children with Puerto Rican ancestry, and there are only approximate 20 case reports about it, most of them in Puerto Rico. It is characterized by typical facial abnormalities, skin changes and the range and severity of signs and symptoms may vary from case to case.

Case Presentation: An one-month-old infant male was admitted to the Federal University of Santa Catarina University Hospital to diagnostic elucidation. Physical exam: abnormal scalp’s bald patches (alopecia) and atrophic hypochromic lesions, small papules on right eyelid, ears’ hypertrichosis, skin erythema and livedo reticularis (right hemibody), hyperaemic nodules, hyperchromic areas on the chest (left hemibody), umbilical hernia, testicles not palpable in the escrotum and diffuse increase in subcutaneous tissue (skin tissue redundancy).

Diagnostic and Therapeutic Focus and Assessment: The abdominal ultrasound revealed testicles with normal morphology and echogenicity, located in the inguinal canals (cryptorchidism) not reducible to the scrotum; indirect left inguinal hernia, umbilical hernia containing loops without incarceration signs, prominent right renal pelvis and no visceromegaly; His transfontanellar ultrasound was normal as well as his karyotype, screening for metabolic diseases and hormones levels. Based on the findings presented, diagnosed Setileis Syndrome. The treatment prescribed was directed to the relief of skin manifestations and hydration. Surgery was programmed to correct the umbilical hernia, cryptorchidia and penile skin reducancy.

Follow-Up and Outcomes: After discharged, the patient was followed by the dermatologist, endocrinologist and geneticist for approximately one year and four months, period during which the livedo reticularis disappeared, though the other cutaneous lesions remained. His growth and development were normal for age.

Discussion/Conclusion: The differential diagnosis included Beckwith-Wiedemann Syndrome, Goltz Syndrome, Brauer Syndrome and other Ectodermal Dysplasias. The first was considered
mainly by some of its characteristics such as umbilical hernia. However, other important clinical signs such as macroglossia, visceromegaly and growing abnormalities were not present. The other syndromes were discarded because the patient didn’t have typical manifestations such as: skeletal abnormalities, e.g. syndactyly (Goltz Syndrome); other dermal manifestations despite bitemporal depressions (Brauer Syndrome); vision and hearing difficulties, learning disabilities (other Ectodermal Dysplasias). Although the karyotype does not detect this genetic syndrome, the diagnosis of Setleis syndrome was made based on signs such as: alopecia, areas with hyper or hipopigmentation, redundant skin and eyelid abnormalities.

This case report helps medical students and physicians make genetic Syndromes’ differential diagnosis and understand that, sometimes, what can be done to patients is to relief or correct signs or symptoms presented in order to promote their quality of life.
A CASE REPORT OF CONGENITAL HYPOPITUITARISM WITH AN ECTOPIC POSTERIOR PITUITARY GLAND

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Summary/Background: Growth failure and low height bring childrens to pediatric endocrinologists, and may be caused by congenital lack of somatotrophs, due to pituitary aplasia or hypoplasia, evident on magnetic resonance imaging or identifiable genetic causes. Pituitary formation during embryogenesis is a complex process that depends on different transcription factors. Congenital hypopituitarism, most commonly affects the anterior lobe, but posterior pituitary may also be involved.

Case Presentation: R.L.S. 17 years, male, anemic, 1.50m of height and 40.6 kg of weight. The patient claimed slow growth during infancy. A physical exam revealed penile size of 3cm and testicles size of 2cm. The patient also presented negative puberty. Laboratory investigation revealed a lower level of GH-clonidina test=0,5ng/ml (normal > 3ng/ml), HB= 10,8g/dl (12-18 g/dl), and Gonadotrophic Hormones that showed LH=0,26mUI/ml (2.2-8.4 mIU/ml), FSH=0,45 mUI/ml (1.8-12 mIU/ml) and Total testosterone=0,05ng/ml(2.01-7.5 ng/ml). The value of TSH was 4,17mUI/L(0.4-4,5mUI/L), free T4= 0,57ng/dl (0.7- 1,5ng/dl) and T3=72,4ng/dl. Magnetic Resonance imaging of the head showed an ectopic neurohypophysis that were more developed when compared with adenohypophysis, associated with indefinite pituitary stalk.

Diagnostic and Therapeutic Focus and Assessment: The patient presented a congenital hypopituitarism. A slow growth during infancy that continued through childhood increased a suspicion of GH deficiency, confirmed by laboratorial exams. He also presented a penile and testicle length bellow the normal. This was related to the gonadotropin hormonal deficiency. Hormonal replace therapy was initiated with testosterone and levothyroxine by oral pills and GH Hormone by subcutaneous injection. The testosterone was introduced in the treatment plan to correct a lower level of gonadotrophic hormones caused by small anterior pituitary gland. Insufficient thyroid gland stimulation by lower level of TSH and free T4 hormone characterized a central hypothyroidism resulted by the pituitary dysfunction. This administration of levothyroxine aimed to improve the symptoms. Due the normal values of ACTH and Prolactin in the blood sample the hormonal replace of these hormones was not necessary.
Follow-Up and Outcomes: Growth hormone replacement therapy (GHRT) was implanted on treatment at first, but the patient wasn’t able to administrate regular subcutaneous doses every day. Due the lack of administration, the GH hormone didn’t improved any symptoms and was temporarily suspended of the treatment plan. The blood sample after one month of treatment showed LH=1,17 mUI/ml, FSH=1,99 mUI/ml, free T4=1,0ng/dl, T3=82,0 ng/dl and TSH=1,8mUI/L. The levothyroxine was able to regulate free T4 and T3 levels. Also occurred the regulation of HB level for 11,8g/dl by the levothyroxine to provide a symptomatic relief for the patient. Due the testosterone administration the FSH level was back to normal value and LH level increased.

Discussion/Conclusion: Patients with an ectopic posterior pituitary gland often present deficit of Growth Hormone (GH). A testosterone replacement therapy (TRT) is recommended for men with consistently low testosterone levels and symptoms or signs of androgen deficiency. The TRT is important to reverse secondary hypogonodism causes like infertility, absence of secondary sex characteristics, muscle waste and others abnormalities. Decreased HB level was improved by the administration of levothyroxine replacement therapy (LRT). The LRT was also important to regulate the thyroid hormone levels developing the thyroid gland activity and treating the central hypothyreoidism.
RING CHROMOSOME 22: CASE REPORT AND REVIEW FROM THE LITERATURE

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Summary/Background: Ring chromosomes have been reported in all human chromosomes, and is an unusual finding known to cause congenital anomalies and developmental delay. It results from a break of the chromosome short and long arms followed by their union. Most ring chromosomes cases are de novo, in other words, they weren´t inherited and occurred the first time in that subject.

The ring chromosome 22 are rare and individuals with these chromosomopathy present common clinical features of the 22q13 deletion syndrome. The common clinical features of ring chromosome 22 are a cognitive and language delay, regardless of the deletion size, which suggests that important genes in telomeric region, or important genes of the brain development was deleted or interrupted.

Case Presentation: H.O.C, female, 1-year-old, from of Guaruja -SP, was referred to the Medical Genetics of Universidade Metropolitana de Santos for motor delay, dysmorphic features and muscular hypotonia. She is the second child of a young, non-consanguineous couple, third time pregnancy mother, a planned and wanted pregnancy. Her mother held nine prenatal visits, with gestational diabetes without other relevant complications. The patient was born of cesarean delivery, at 38 weeks and appropriate for gestational age, birth weight of 3.290g (50th percentile) and height of 49 cm (75th percentile) with head circumference of 36 cm (90th percentile) and APGAR score of 10/10 . After seven days of birth, the infant returned to the hospital because of jaundice.

The patient’s motor development was delay. She presented important hypotonia, doesn’t support the cephalic segment, doesn’t speak and doesn’t walk. On physical examination the patient’s weight was 8.0 kg (5th percentile) and height of 72.4 cm (50th percentile). She presented with a prominent forehead, frontotemporal alopecia, ocular hypertelorism, umbilical hernia and hypochromic spots on the left thigh and in the upper left quadrant of the abdomen. She had hypoplastic nails of hands and feets.
Diagnostic and Therapeutic Focus and Assessment: The diagnostic of ring chromosome 22 can be done by bands G karyotype. In our case, the karyotype showed a 46,XX,r(22)(p13q13.3) result, that is, a ring chromosome of the 22 with the lost of the telomere in short and long arm. 

Follow-Up and Outcomes: The phenotypic spectrum of ring chromosome 22 is wide and can range from mild to severe, based in the size of the deleted segment and of the epigenetic factors due to the ring configuration, which can modify genes expression, and the presence of mosaicism, that is, the presence of more than one cell line in the same individual.

After reviewing the literature on the phenotype and chromosomal abnormalities it’s possible to conclude that characteristics like delayed motor development and hypotonia are two of the most commons features of the chromosomopathy. The morphological phenotype is variable, but with a recurrence of certain characteristics, in particular epicanthal folds and large ears, all presents in our patient.

Our patient has phenotypic characteristics that were not previously described in the literature, such as hair thinning in frontotemporal region and hypochromic stains. She also presents features that have been described in a few cases, such as nail hypoplasia of the hands and feet.

Discussion/Conclusion: The ring chromosome 22 is a rare chromosomopathy, but already very well described in the literature, what proporcionate the possibility to be hypothesized when we are facing a patient with important development delay, hypotonia and morphological phenotype. Describe the phenotype of patients with ring chromosome 22 is important in order to expand the known phenotype of the syndrome and also learn more about the complications that these patients may have, thus to carry out specific clinical monitoring.
PRESENTATION OF 7 PATIENTS WITH TURNER SYNDROME ATTENDED AT AN AMBULATORY-SCHOOL

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Background/Introduction: The Turner syndrome is the most common type of gonadal dysgenesis on women and presents a variable phenotype, going from growth deficit, cardiovascular and metabolic disorders to failure of gonadal function and fertility problems. This paper presents a research of patients records, presents seven patients attended at the Pediatric Endocrinology Clinic of Univali and match the guidelines founded on literature with the practice taken by the service.

Objectives: This work aims to present clinical data of 7 patients treated at the pediatric endocrinology clinic of Univali in Itajaí-SC. It also assesses the clinical alterations more commonly found in the syndrome and checks the response of patients to treatment for each illness. Finally, it suggests the creation of a standardized form of care to optimize the tracking and behaviors necessary for each patient.

Methods: Data were obtained from the analysis of medical records of patients treated at the pediatric endocrinology clinic of Univali - Itajaí-SC, diagnosed with ST (ICD Q96.0) in the period from January 2000 to June 2014, totaling a sample of 7 patients from a total of 436 attended. Data were analyzed and tabulated using Excel software from Microsoft in 2010, in order to establish the frequency of simple appearance and correlate them according to recommendations of international consensus. We calculated the average statures of patients using the WHO curve (2007) and also used the curve of Lyon (1985), which reflects the specific Z score for Turner Syndrome.

Results: The average age at 1st consultation was 8.2 (± 2.4 years), as the average age at diagnosis was 6.7 (±4.9). The most commonly karyotype was 45 X, present in 3 cases. The others were as follows: 45 X / 46, X i (X) (q10); 45, X / 46XX; 45, X / 46, X i (X) (q10); and 45, X / 46, XYder (Y).

As clinical manifestations, the high-arched palate was described in all patients, followed by the low-set hair, cubitus valgus and breast hypertelorism in 4 patients.

The average height in the 1st consultation was -0.5±0.8 SD. In the last visit, the average height of patients was 1.0 ±0.5 SD. Six patients underwent use of growth hormone (GH) daily, at a
dose of 1 IU / kg / week, with an average starting age of 9.3 ± 1.8 years and finish age of 11.5 ± 4.5 years.

Three patients require hormonal induction to early pubertal development. The average age of onset of induction was 11.4 ± 0.4 years.

**Discussion/Conclusion:** The average age at diagnosis of the syndrome was comparable to that found in European studies.

The mean duration of GH treatment was 3.1 years as the average age of onset of GH use was 9.3 ± 1.8 years in patients; an average that is consistent with the data collection of the National Cooperative Growth Study (NCGS) of the United States, which found an average age of 9 ± 3.8 years in a cohort of 471 patients. Although the age of onset is not yet a consensus.

The average onset of pubertal induction age was also compatible with the international consensus, bringing the age of 12 years as the most suitable for better use of hormonal results.

The evolution of patients on the therapy used forward its comorbidities proved satisfactory. The increase in final height following the use of GH and good response to hormonal stimuli in search of maturation of female sexual characteristics were the main contributions of staff towards the patients.
PARACETAMOL: AN OPTION IN THE MANAGEMENT OF PATENT DUCTUS ARTERIOSUS

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Background/Introduction: Patent Ductus Arteriosus (PDA) is a non-cyanotic congenital heart disease, with left-to-right shunting. It is caused by continuous production of prostaglandins (PG), inhibitors of the vessel constriction. Its incidence is about 70% in preterm neonates (PNs) and, it accounts for high mortality and morbidity levels, as result of severe neonatal conditions, as congestive heart failure, bronchopulmonary dysplasia, peri-intraventricular haemorrhage and Eisenmenger’s Syndrome.

Objectives: Demonstrate the clinical use of paracetamol in the management of PDA.

Methods: We performed a bibliographic review on international literature at databases, as PubMed, Cochrane and Lilacs. The MeSH/DeCS subject headings were paracetamol, management, ductus arteriosus. Following, we proceeded with analysis and we summarised the data in order to write the review.

Results: PDA’s pharmacological management with intravenous nonsteroidal anti-inflammatory drugs (NSAIDs), as indomethacin or ibuprofen, both with similar effects, is the first-line approach. Other treatments are the surgical ligation or catheter closure, both with risks influenced by the skills of the surgeon performing the procedure. Considering the adverse events of NSAIDs, as the nephrotoxicity, new studies are being done. Recent researches have shown paracetamol as a promising drug because its lower cost, high availability and low incidence of adverse events. It inhibits the peroxidase component of PG synthesis, a different mechanism from NSAIDs. PNs above 28 weeks have less sensitive PG receptors, lower circulating levels of PG than other PNs, therefore paracetamol has had better results at this group. Furthermore, lower doses were satisfactory and safe. The incidence of side effects of paracetamol as gastrointestinal bleeding and hyperbilirubinemia were lower than ibuprofen.

Discussion/Conclusion: PDA is a serious heart disease, in which the pharmacological management is the first intervention, despite the surgical options. In the last decade, several studies have been done about the use of paracetamol to treat patent ductus arteriosus. The hypothesis emerged from the drug mechanism of action and clinical cases of fetus whose ductus arteriosus have closed when mothers used paracetamol. The same effect happened when using indomethacin or ibuprofen while in the third semester of gestation. Current data demonstrate
paracetamol as effective as indomethacin or ibuprofen when these drugs have failed. Among all these available drugs, paracetamol has shown lower risk of adverse events and same efficacy of NSAIDs in the treatment of PDA and lower costs and higher availability than this group. It is, therefore, a possible candidate for first choice therapy.
NEONATAL MORTALITY ASSESSMENT IN A PUBLIC REFERENCE MATERNITY OF HIGH NEONATAL RISK IN BELO HORIZONTE

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Background/Introduction: Neonatal mortality (NM) still has great impact in infant mortality, being responsible for 40% of infantile deaths. The accompaniment of mortality rates is an important tool of assessment for improving the quality of assistance in the institution. It does reflect the quality of perinatal assistance. The present study proposes assess the evolution of NM of newborn (NB) children admitted at the Neonatal Intensive Therapy Unit (NITU) in the maternity through the years.

Objectives: Evaluate and compare NM rates in NB admitted at the NITU of a public reference maternity of high neonatal risk in the years 2001, 2008 and 2015. Specifics: compare the general, early and late rates of mortality through the years and analyse the tendency of the evolution of these rates; compare the rates of mortality between NB of very low birth weight (birth weight ≤1500g) and NB of extreme low birth weight (birth weight ≤1000g) in 2001 and 2015. Evaluate causes of death in 2015.

Methods: All deaths occurred at the NITU were included, in the years 2001, 2008 and 2015. The variables studied were: birth weight and age of death, and in the year 2015, the causes of death. Data was obtained from the nursing book from the NITU and from the medical records. The qui-square test was used and it was considered the value of p< 0,05 as the threshold of statistic significance.

Results: The general, early and late mortality rates, were respectively 14%, 9,8% and 4,2% in 2001; 12.3%, 9,2% and 3,1% in 2008; 6,5%, 5% and 1,5% in 2015. It was verified a reduction through the years (p<0,05) for general and early mortality rates. Early deaths predominated in all periods evaluated (>70%). The mortality rates at the NB of very low birth weight were 16,3% in 2001 and 11,5% in 2015 and at the NB of extreme low birth weight were 34,6% in 2001 and 19,6% in 2015. Although not in a significant statistic rate, there was an important reduction of mortality, specially between NB of extreme low birth weight (p=0,05). About the deaths causes in 2015, 69% occurred because of extreme prematurity, being 61% in NB with gestation age lesser or equal 26 weeks. Between in term NB, predominated congenital malformation (11,5%)
and early sepsis (11.5%). Sepsis associated to prematurity was responsible for 27.7% of premature deaths.

**Discussion/Conclusion:** It was observed the reduction of general, early and late mortality rates, and also between NB of very low birth weight and NB of extreme low birth weight throughout the years, reflection of the improvement of perinatal care. Early death and extreme prematurity death predominated, usually inevitable. It is a fact though, that these results are indeed improving and motivating the search for improvement of all neonatal assistance processes, aiming to reduce prematurity and neonatal mortality.
METABOLIC SYNDROME PREVALENCE IN CHILDHOOD CANCER SURVIVORS

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Background/Introduction: In Brazil, cancer affects around twelve thousand children per year. Many of them when undergone to a treatment have increased chances to develop metabolic syndrome then other children.

Introduction: Adolescents and children treated of cancer are prone to develop metabolic syndrome due to changes that radiotherapy and chemotherapy provides. These dysfunctions compromise fat tissue, musculoskeletal tissue, endothelium tissue, gastrointestinal tract and the liver.

Objectives: Evaluate the prevalence of metabolic syndrome in children treated of cancer and contrast with parameters investigated.

Methods: Thirty eight patients of GPACI Hospital that had finished cancer treatment in, at least, five years were analyzed. It was considered variations such as: plasma glucose, blood pressure, waist circumference, HDL, triglycerides, cancer type, treatment type and familiar historical. As control group, we used 20 sibilings of the analized pacients under the same parameters.

Results: Survivors had increased risk to develop metabolic syndrome (RR 2,11 Mid-p 0,27). HDL was the index with most alterations in control group and in the studied group (less or equal 45mg/dL in 46% of voluntiers). Comparing the studied group with the control group, the waist circumference was the most important factor (RR 4,73 Mid-p 0,040).

Discussion/Conclusion: Similar to literature, the prevalence of metabolic syndrome in the group survivors of pediatric cancer was superior than in the control group and also higher than the prevalence of metabolic syndrome in children and adolescents of USA.

Conclusion: The waist circumference was the index with statistical significance. Differently from others studies, the others factor did not showed relevance, probably because the size of the sample.
ACUTE BULBAR PARALYSIS: A CASE REPORT

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Summary/Background: The acute bulbar paralyis variation of the Guillain-Barré syndrome is a rare clinical condition. The initial presentation of the case with dysphagia is an even more rare complication. In this way the otorhinolaryngology evaluation was fundamental for the diagnosis.

Case Presentation: 3-year-old male was referred to the Otorhinolaryngology service presenting with dysphagia, sialorrhea, fever and food refusal for 3 days. Presented motor aphasia, was non-responsive to previous antibiotic therapy and adequate oxygen saturation with nasal catheter. Oroscopy showed a thick and abundant secretion and hyperemia of the oralpharyngeal mucosa.

Diagnostic and Therapeutic Focus and Assessment: Infectious laryngotracheitis, retropharyngeal abscess, epiglottitis and foreign body in the esophagus were the first hypothesis. Initial exams showed anemia. Cervical radiography showed a narrowing of the subglottic area without irregularities. A swelling of the cuneiform and corniculate cartilage and hyaline secretion was visualised through fiber optic video camera system. He also presented bilateral peripheral facial paralysis, palate paralysis with an abolished gag reflex and hyposthenia of limbs. Cerebrospinal liquid analysis presented protein-cytological dissociation, higher protein levels, without pleocytosis. Guillain-Barré Syndrome acute bulbar paralysis variation was the final diagnosis.

Follow-Up and Outcomes: The patient presented here recovered all his bulbar functions after a week. The first symptom to appear was the dysphagia and it was also the last one he recovered from. When discharged he still presented voice alterations. Speech therapy and artificial tears were prescribed. A month after the discharge the patient presented with good general state and no sequelae.

Discussion/Conclusion: Guillain-Barré Syndrome is an autoimmune syndrome that impairs the proximal portion of peripheral nerves in an acute/sub-acute form. 60-70% of the patients present a previous acute infectious disease that are usually subclinical. Campylobacter jejuni and cytomegalovirus are the most frequent pathogens. The acute bulbar paralysis is a variation of the syndrome that affect specially the bulbar functions when compared to other symptoms.
The diagnosis was confirmed based on a set of clinical and laboratorial findings, there is no pathognomonic sign nor laboratory exam pathognomonic to the syndrome.
ROSARY-LIKE CORONARY ANEURYSMS IN A CLASSIC PRESENTATION OF KAWASAKI DISEASE: A CASE REPORT

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Summary/Background: Kawasaki disease (KD) is a vasculitis of unknown origin that predominantly afflicts children aged 5 or younger. Studies suggest a multifactorial etiology, including an immature immune system, genetics and a probable infectious agent as a trigger. Since laboratory findings are not pathognomonic, patient history and clinic are essential for diagnosis. The most prominent symptoms are cervical lymphadenopathy, fever, and mucocutaneous inflammation. KD is prone to cause coronary artery aneurysms (CAA) in 20% of cases untreated with intravenous immunoglobulin (IVIG).

Case Presentation: A two-year and 11-month-old male weighing 14.5kg admitted to the hospital with a 5-day history of a fever and persistent cough. A physical examination revealed a skin rash on hands, feet, and genitalia associated with bilateral nonexudative conjunctivitis. There was diffuse erythema of the oropharyngeal mucosa, strawberry-like tongue, and bilateral cervical lymphadenopathy. The patient’s hemogram showed leukocytosis, platelet count of 480.000/mm3 and elevated C-reactive protein (CRP) which is evidence of elevated inflammatory activity. KD was a diagnostic hypothesis.

Diagnostic and Therapeutic Focus and Assessment: R.D.S was considered to have complete KD based on the American Heart Association/American Academy of Pediatrics guidelines. On the seventh day of onset disease, therefore still in the acute phase, he received IVIG (2g/kg) in a single infusion and aspirin in anti-inflammatory doses (100 mg/kg per day) administered in four doses. Despite the use of IVIG his fever persisted, so prednisone (2mg/kg/day) was administered for 14 days. The initial echocardiogram and electrocardiogram (EKG) were normal. The fever dropped on the 11th day of onset disease, and he was discharged asymptomatic, with antiplatelet doses of aspirin (5 mg/kg/day). An echocardiogram was scheduled for 15 days later to observe for any late alterations.

Follow-Up and Outcomes: The follow-up echocardiogram showed a 5 mm aneurysm (z-score = +9.21) in the origin of the right coronary artery (RCA) and multiple aneurysms like the beads of a rosary in the main and left anterior descending coronary arteries (LAD) with a maximum diameter of 7 mm (z-score = +18.97). A computed tomographic scan revealed multiple dilatations in the RCA, the biggest with 6 mm, a fusiform aneurysm in the left main with
extension to LAD with a maximum diameter of 7mm and another dilatation in proximal LAD with 5mm diameter. The left circumflex artery had two dilatation of 7 mm proximal and 4 mm medial. He was asymptomatic, with normal EKG. In patients with acute KD, pro-inflammatory cytokines such as tumor necrosis factor-alpha (TNF-α) are elevated and associated with further coronary alterations. In an attempt to prevent this evolution, Infliximab, a monoclonal antibody anti TNF-α-1, was administered (5 mg/kg), with no infusion reactions or adverse effects. Two echocardiograms were performed with no change. At the last follow-up visit, 11 months after the onset of KD, the patient was well, asymptomatic, and continued to take a single prophylactic dose of aspirin 5mg/kg/day.

**Discussion/Conclusion:** Considering KD surpassed rheumatic fever as leading cause of acquired cardiac disease in children of the developed world, it is important to bring KD to light. Furthermore, to detail a classic case of KD with a rare yet characteristic complication: rosary bead-like string of aneurysms. The failure to defervesce with IVIG therapy happens to ≥ 10% of KD patients, probably led to the development of small to medium aneurysms (<8mm) in a distinct conformation that appears like beads in a rosary. In these cases, the aneurysms can evolve dynamically demanding constant follow up. Aneurysm size may increase over the first two months after onset of the disease. After two years, aneurysms tend to regress to an average lumen size and stenosis may occur progressively later on. A coronary Z-score ≥ 2.5 (a coronary dimension of 2.5 SDs above the mean for body surface area) in the proximal RCA and LAD is abnormal in the general population. KD is becoming less rare in the pediatric population. Therefore, it is essential that medical professionals be capable of identifying the main symptoms of KD and having this disease in mind when assessing febrile children in the daily practice.
PREVENTIVE MEDICINE
A BIOPSYCHOSOCIAL VIEW OF THE USE OF AYAHUASCA TEA IN DRUG ADDICTS: AN INTEGRATIVE REVIEW

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Background/Introduction: Ayahuasca tea is used in shamanism for the purpose of bringing man to the divine, as of late, it has been used for other purposes, such as the treatment of dependent drug users, hallucinogenic recreations, among others. Two studies developed by Barão de Mauá Center University’s scientific research center presented results with morphological and behavioral changes, referring to the question of biopsychosocial impacts on tea users.

Objectives: Because the use of Ayahuasca tea is a new form of therapy, this review aims to survey the literature of the use of Ayahuasca tea in individuals with drug addiction, looking at the biopsychosocial context.

Methods: Integrative review. The subject was defined considering a new therapeutic approach for individuals with drug addiction and if this treatment would lead to some benefit for these individuals. The Google Scholar database was used with the keywords "Ayahuasca tea in the treatment of drug addicts." 240 articles were found published between 2000 and 2015. Review articles were excluded along with those that didn’t take into account the treatment, adverse effects or excluded use experience reports. Articles included amply demonstrate the effects of the tea in treating addiction, with regard to psychosocial and pharmacological impact. 13 articles were found in Scielo, however none were found in PubMed. 11 articles of the greatest impact were selected, considering the objectives of the report.

Results: Ayahuasca tea not only promotes physical, psychological and spiritual cleansing, but also moral cleansing. Institutions that use Ayahuasca tea claim that use of the tea promotes a
new lifestyle, leading to a better way of life, thus providing a lower chance of relapse. Rather than replacing the addiction, the tea provides a release of the addiction in life of the discovery of a new path to follow. (Mercadante, 2013). According Cemin et al (2000) those suffering from addiction taken to the UniÃ£o do Vegetal were known to experience a new lifestyle. The treatment had a positive impact on these individuals, allowing them to give up drugs, and change their self-concepts, reaching a higher level of awareness of themselves and the world, which culminated in important behavioral and physiological improvements. There is evidence that prolonged consumption of Ayahuasca can reverse alcoholism through the modulation of gene expression of the neurotransmitter serotonin). (McKenna, 2004).

Discussion/Conclusion: Institutions that use this kind of tea in treating drug addiction seek to benefit from the favorable pharmacological effect produced, as well as the social interaction of patients and the formation of a new concept about addiction and life expectations. The integrative review of the effects on the psyche and possible therapeutic effects for the treatment of chemical dependency, taking into consideration a broader context of religious rituals and lifestyle changes, points to a favorable outcome for the use of Ayahuasca tea in a biopsychosocial context. However, the results are inconclusive, requiring further study.
IMPLEMENTATION OF THE FAMILY HEALTH STRATEGY UNTIL MARCH 2016 IN THE NORTHEAST REGION OF THE STATE OF SÃO PAULO

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Mentor name: DUTRA, M.M.; VIEIRA, M.H.S

Background/Introduction: The family health strategy (ESF) is the health care model of primary health care advocated by the Ministry of health that is based on work by multiprofessional teams and develops health actions in a defined territory, with focus on the family. In Ribeirão Preto the Municipal Department of Health was authorized to enter into an agreement with the Ministry of Health, aiming at the implementation and execution of "Programa de Saúde da Família (PSF) in 07/04/2000.

Objectives: Describe the evolution process of the Family Health Strategy (ESF) in the city of Ribeirão Preto, Brazil

Methods: Descriptive and bibliographic research carried out between the implantation until 2015.

Results: In 2001 the city of Ribeirão Preto was not integrated in any management model of the Brazilian unified health system. The management that started, defined the PSF, decentralization as a structuring axis of the SUS in the municipality. The city of Ribeirão Preto, with a population estimated in 2015 of 666,323 inhabitants (IBGE census) diversified with insufficient professionals, teams and equipment to cover an attention of quality, little moved forward with the implementation of the ESF which started in 2007 with 11 ESF, 1 in 2010, 2 in 2011, 1 in 2012 and 2 in 2015, that leads us to infer little investment in the basic attention, partner
organizations with different levels of autonomy, the occupation of the urban space marked by a great heterogeneity.

**Discussion/Conclusion:** As reorganizing the primary health care strategy, the health strategy of the family does not have enough deployment that demonstrates this redirection in the city analyzed.
RELATION BETWEEN ADDITION OF FOLIC ACID IN FLOURS AND FETAL NEURAL DEFECTS TUBE IN THE CITY OF TAUBATÉ.

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Background/Introduction: Neural tube defects (NTD) are congenital anomalies that occur between the third and fifth weeks of gestational age, and represent an important cause of morbidity and mortality in children under one year of age. Anencephaly and myelomeningocele together represent 90% of the cases. It is known that supplementation with folic acid substantially reduces the occurrence and recurrence of these defects. Therefore, a regulation requiring the supplementation of folic acid in wheat and corn flours was implemented in Brazil, by the National Health Surveillance Agency (ANVISA). This fortification is already practiced in other countries where a decrease in the incidence of these malformations has been observed.

Objectives: To evaluate the relationship between the addition of folic acid in flours and prevalence neural tube defects closure in Taubaté.

Methods: this is cross-sectional study of the prevalence of neural tube defects in the years 2001 and 2006, respectively each preceding and following the ANVISA regulation. The records of live births were obtained from the Department of Informatics of the Unified Health System (DATASUS) and the data concerning malformations were collected through the records of the Hospital Universitário de Taubaté and Hospital São Lucas. A field survey was performed to check if the flours were in accordance to the of ANVISA standards.

Results: All flours assessed complied with the resolution of ANVISA. It was also observed that there was a decrease in the prevalence of neural tube defects in 2006 compared to 2001, p <0.05.
Discussion/Conclusion: The flours of the city of Taubaté complies the ANVISA resolution. There was also a decrease in the prevalence of neural tube defects after the introduction of this resolution, which suggests the efficiency of this measure. However, there is a need for more comprehensive studies that could corroborate the results of this work and that also may exclude confounding factors that could have affected these findings.
PERTUSSIS: AN INTEGRATIVE REVIEW

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Background/Introduction: The pertussis or whooping cough is an acute infectious disease that affects the lower respiratory tract, highly contagious characterized by paroxysms of nonproductive cough. This disease has a global distribution and affects people of any age group. Infants make up the most susceptible group to complications and even death due to whooping cough. Hyperendemic pertussis cycles has occurred every three to five years followed by decline. The last cycle in Sao Paulo state began in 2011 with an increase in the number of cases by 2014 and decline in 2015. The occurrence of these hyperendemic cycles reinforce the epidemiological concern about pertussis, making it a significant public health problem.

Objectives: Identify in the scientific literature publications about whooping cough in childhood that may elucidate the care practices health necessary to prevent this disease in this population.

Methods: To guide the study, the following research question was formulated: What was produced in the literature about whooping cough in children? In March 2016 it was made the search of publications indexed in the following databases: LILACS (Latin America and the Caribbean Literature on Health and Science), MEDLINE / PubMed (Medical Literature Analysis and Retrieval System Online), Scopus, SciELO (Scientific Electronic Library Online), Embase and CINAHL. The following descriptors were used: Coqueluche OR Tosse Comprida OR Tosse Convulsa OR Pertússis AND Epidemiologia AND Vacinação OR Imunização Ativa AND prevenção & controle OR controle OR prevenção OR medidas preventivas OR terapia preventiva OR profilaxia OR prevenção e controle, making the search strategy in Portuguese. And the following descriptors in English: Whooping Cough OR Pertussis OR Pertusses OR Respiratory
Bordetella pertussis Infection AND Epidemiology AND Vaccination OR Vaccinations OR Active Immunization OR Active Immunizations AND Prevention and control OR preventive therapy OR prophylaxis OR preventive measures OR prevention OR control, all recorded in Medical Subject Headings (MESH) and the Descriptors in Health Sciences (DECS).

To be included, the publications must address the issue whooping cough in childhood and provide data for promotion, prevention and control of the disease and its epidemiological profile in the shape of articles in Portuguese, English and Spanish, which were indexed and that used the chosen descriptors at any time for the literature review.

The publications which do not mention pertussis in childhood, its promotion, prevention, control and epidemiological profile, will be excluded.

**Results:** Were found 1588 publications using the keywords and databases described in the methodology. The collected material is being analyzed and selected according to established criteria to be included in the review.

**Discussion/Conclusion:** The partial reading of the results indicates the need for an extension of the vaccination schedule of pertussis by introducing booster doses. The immunity provided by the vaccine is not permanent and lasts on average from 5 to 10 years. The last dose of pertussis vaccine according to the current scheme is still in its infancy. Therefore, many adults have very little protection against the disease, making it prone to infection and subsequent contamination of infants, which makes up the most vulnerable group to complications from pertussis.
REPEATED PREGNANCY AMONG HIV INFECTED WOMEN: A STUDY ABOUT REPRODUCTIVE LIFE PLAN AND RISK PERCEPTION

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Mentor name: Regina Célia de Menezes Succi

Background/Introduction: It is a known fact that in the entire world the number of pregnancies and the will to have a family have increased. The availability of the antiretroviral therapy and the social and comportamental conditions of those women can influence the decision of becoming a mother. Besides, those pregnancies are not free of risks: they can raise the HIV transmission and re-infection, and the mother responsibilities with the new born can decrease her self care and disturb the treatment.

CEADIPe (Centro de Atendimento da Disciplina de Infectologia Pediátrica) is the service in our University responsible for the medical care of exposed or infected children by the HIV virus since 1997 in Escola Paulista de Medicina/UNIFESP. Since its foundation, more than 240 HIV infected women have had repeated pregnancies, at least 30 of them have had more than 1 child infected and more than 60 cases have been reported in the last five years.

There are no conclusive researches about reproductive life plan and risk perception by these women.

Objectives: Comprehension among reproductive life plan and risk perception by HIV+ women who have had more than one pregnancy and have at least one child being treated in our medical service,

Methods: Women with known HIV+ status whose children are part of our service in CEADIPe and necessary had more than one preagancy - the last preagnancy occurring in the last 5 years. 60 medical records from these group of women will be analised - information about social conditions, previous pregnancies, vulnerable behaviours among others. 20 interviews will be applied to consenting mothers, due to explore the psychological universe of those women. An Informed Consent Formed will be as well applied.
**Results:** Among curious other results, we could have the perception that most of the mothers have diagnosed HIV in previous pregnancy and have not adopted an effective contraception method, what resulted in unplanned and undesired pregnancies. Besides that, the majority of them made anti natal exams and profilaxy to avoid vertical transmission, and understand the necessity of a medical followup throughout the perinatal period and childhood. The prime majority have exposed not infected children.

**Discussion/Conclusion:** There are a lot more about this subject to be analysed and studied to comprehend those women psychological universe. We could infer that the desire of being a mother is not excluded in spite of HIV infection. There’s a lack of information about the disease, transmission, care, risks etc not only by these group but in general population. Nonetheless, most of them showed concern with their children and with self-care but there aren’t many concrete reproductive life plannings. In interviews, their states also showed the prejudice they are pledged to, their concern with the children, lack of information before the diagnosis and that the desire and dream to be a mother can rarely be buried.
COMPARISON BETWEEN THE NEUROPROPRIOCEPTIVE FACILITATION ISOLATED AND ASSOCIATED WITH THERAPEUTIC ULTRASOUND ON FLEXIBILITY AND PERFORMANCE IN VERTICAL JUMP IN VOLLEYBALL ATHLETES

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Background/Introduction: The elongation through Proprioceptive Neuromuscular Facilitation technique (FNP) is widely used as a way to achieve greater range of motion, this technique may be associated with heat for thermotherapy and have their enhanced effect. However, there is controversy over its influence on athletic vertical jump performance.

Objectives: The objective of this study was therefore to evaluate and compare the effects of stretching technique FNP isolated and associated with therapy therapeutic ultrasound on the flexibility and performance in the vertical jump.

Methods: The study included 28 athletes of both genders, with a mean age 18.0 ± 1.0 years old, they were divided into three groups (control, FNP + Ultrasound and PNF), and were subjected to flexibility training twice a week for 6 weeks.

Results: The amplitude of the popliteal angle by goniometer, hamstrings flexibility by the Bank of Wells and vertical leap by Sargent Jump Test. Results: The FNP and FNP groups + Ultrasound showed a significant gain (p = 0.05) compared to GC. Otherwise in comparison between modes (GFNP x FNPUS), showed no significant differences

Discussion/Conclusion: It is concluded that for this sample, the application of the FNP with or without thermotherapy for therapeutic ultrasound was effective and significant in the flexibility development and performance in the vertical jump.
VISUAL ACUITY AND ACADEMIC PERFORMANCE IN ELEMENTARY SCHOOL STUDENTS, ESCUELA JOSÉ CECILIO DEL VALLE, RIO HONDO, M.D.C., HONDURAS, IN JUNE 2015

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Mentor name: Carmenate, L. - UNAH

Background/Introduction: Images are the most efficient and comprehensive mechanism for transmitting information on a particular stimulus and probably one of the most important determinants in the process of teaching and learning. Our sense of vision plays a very important role in the development of our life. The vision is responsible for most of the sensory information we perceive the external environment; it plays an important role in the early years of our life, by allowing social interaction, learning and communication. Visual problems can cause serious problems in children learning and socialization process.

When it comes to assessing how to improve academic performance and are discussed in greater or lesser degree the factors that can influence to it. The causes of the child or adolescent lack in learning can be divided, for its study, on own dependent child or adolescent, dependent on social environment and the physical, chemical and biological environment of the home, community and institutions educacionales.

There are several visual disorders that are responsible for the delay in normal performance in school age, the most frequently presented and related learning problems are refractive disorders. Refractive disorders or ametropia are all those situations in which, by poor optical performance, the eye is not able to provide a good image. To this disorders as catalog as ametropia, it must be susceptible to correction by optical means.

Unfortunately many times parents and teachers does not know if children have some visual disturbance, which could have consequences on the academic performance of these, by not allowing the use of their potential. Visual problems can begin at an early age and in many cases it is responsible for children do not work in class and avoid making their assignment.

According to a study by the Mexican Social Security Institute, 1 in 4 children have vision problems that affect productivity and learning. A study in the city of Cuautitlan, Mexico in
school children, identify ametropia as the most common eye disorders that affect academic performance with 34.4% of prevalent, with astigmatism as the most common diagnosis. Another study in the city of La Havana, Cuba, in school with learning disabilities identified that 45% had optical disorders.

The "Escuela José Cecilio del Valle" is a basic public center of the village Rio Hondo, Francisco Morazan, has 123 students between first and sixth grade. Evaluation of visual acuity is not a usual practice provided in the national programs, being the disorders that cause decreased visual acuity highly prevalent and having these high impact on the academic performance of schoolchildren. It aimed to establish the association between disorders of visual acuity and school academic performance.

**Objectives:** Establish de prevalence of ametropia in students from Escuela José Cecilio del Valle.

Link poor school performance with the presence of a uncorrected ametropia.

**Methods:** A cross-sectional study was conducted in elementary school students, first to sixth grade at “Escuela José Cecilio del Valle” in the village Rio Hondo, M.D.C, Francisco Morazan. The universe consisted of 123 students who made up the registration of that institution, including a sample of 93 students with a confidence interval of 95% and a margin of error of 5% was taken. We included enrolled students which their parents gave their informed consent to participate in the study. It was excluded non-cooperating students and those who did not assisted the day they were invited to participate in the study.

In order to assess visual acuity, children were evaluated by the Snellen chart, placed 6 meters away and was asked to name the letters. A children that had less than 20/25 visual acuity were assessed refractive retinoscopy and used trial and error test with trial lens. Visual acuity tests were performed by students of sixth-year medical and refractive errors were evaluated by a fifth-year medical student trained in optometry. The academic performance was taken based on the National Academic Performance Report 2014, this categorizes performance in Math and Spanish and divided into advanced, satisfactory, needs improvement and unsatisfactory. This report corresponds to the assessment of academic performance grade completed in 2014, therefore not include first-grade students, or students transferred from other schools this year; however, in the case of children in first grade, academic performance test was carried out by school teachers to evaluate their academic performance to date.
Students who had refractory alterations were provided with prescription glasses through a grant managed by the investigation and service group IMIS (Iniciativa Multidisciplinaria de Investigación y Servicio).
Processing and data analysis was performed using Epi Info 7 and GraphPad.

**Results:** A total of 93 students, between the ages of 5 to 12 years, were evaluated 43% males and 57% females. In assessing visual acuity were emmetropes the 84%, while 16% were with ametropia; subsequently the refractive disorder was evaluated. Of the students with ametropia, 8.16% had hyperopia combined with astigmatism, 8.16% myopia, 83.67% myopia combined with astigmatism. A relation of refractive disorders with academic performance was performed.

**Discussion/ Conclusion:** Data were analyzed using GraphPad, a contingency table in which the group emmetropes with those who had ametropies were compared in terms of their academic performance. Variables of academic performance were grouped as advanced with satisfactory and needs improvement with unsatisfactory.
HEALTH STATUS ASSESSMENT IN MEDICAL STUDENTS THROUGH THE USE OF THE HEALTH OUTCOME STANDARDISED INSTRUMENT (EQ-5D)

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Mentor name: Dutra, Marcelo Motta

Background/Introduction: Since the World Health Organization (WHO) defined the concept of health in 1946 as a state of complete biopsychosocioambiental welfare, it attempted to measure the status of individual health as a definite number. The EuroQol five-dimension questionnaire (EQ-5D) is a standardized instrument for measuring generic health status and it is a methodology to get these data, although this questionnaire may offer doubtful results to be analized since the self-assessment is subjective.

Objectives: The main goal of this study was to evaluate the self-concept of undergraduate students from a particular institution about the health status through EuroQol five-dimension questionnaire (EQ-5D).

Methods: To evaluate the self-concept of health the health-related quality of life (HRQoL) was applied in 55 medical students from Centro Universitário Barão de Mauá aged between 17 and 30 years old. For data analysis, the EQ-5D scale that ranges from 0 to 100 was subdivided into 4 quarters ([0, 25], [25, 50], [50, 75], [75; 100]) according to the health status.

Results: From the scale of analysis EQ-5D it was observed that in the first quarter [0, 25] there was no student assessed. Into the second quarter [25, 50] two students were categorized. In the third quarter [50, 75] eighteen students fitted this range. Finally, in the fourth quarter [75; 100] thirty-five students were identified.

Discussion/Conclusion: The analyzed data, contrary to expectations, demonstrated that a significant number of students categorized below the fourth quarter, measuring their health
indexes below 75 on EQ-5D scale. Since the group of students analyzed presented a high socioeconomic level, broad access to good health and education, it was expected that almost all students would fit in the fourth quarter. However, this method of analysis based on the biopsychosocioambiental model, which is extremely comprehensive concerning the aspects that determine the concept of health and disease, making these data subjective. One hypothesis for this finding is that the high rate of the education of the population evaluated makes them likely to be more critical of their own health status. To further substantiate this hypothesis, it would be necessary to conduct a comparative study of samples in different socioeconomic conditions.
DOCTORS’ ROLE IN CHILD DOMESTIC VIOLENCE IDENTIFICATION AND NOTIFICATION: A BIOETHICS VIEW

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Mentor name: Ribeiro, L. M. A.

Background/Introduction: Child domestic violence (CDV), act or omission exercised by parents, family or care giver, classified as physical, psychological, social and negligence, represents an important public health problem, affecting the development of children1. 12% of Brazilian children under 14 are victims of some kind of CDV yearly2. Health professionals and services represent an important role in the identification and notification of CDV, moreover, they are able to develop prevention strategies. Therefore, being prepared to identify signs and symptoms of CDV is essential to notification.

Objectives: Analyze the doctors’ knowledge in the identification and notification of CDV, such as the time between the beginning of symptoms and signs until their perception. Show the medical importance in the identification of CDV. Also, draw a profile of CDV in Sorocaba, according to the gender and age of victims, type of violence and source of notification.

Methods: A cross sectional study is being carried out in the Child Protection Service (CPS) in the city of Sorocaba. Data related to CDV cases in the year of 2016 is being collected. Based on these data the number of complaints, source of notification (primary health units, family members, schools, for example), time between the beginning of symptoms and signs and CDV identification, type of violence and victim profile (gender and age) will be analyzed. After this period a statistic analysis will generate the prevalence and incidence of child violence in the city of Sorocaba and the prevalence of the different types of aggression. The preparation of medical practitioners will also be evaluated through a questionnaire applied to all of the pediatricians from the primary health units of Sorocaba. This questionnaire, created by two medical students based on the National CDV guidance document, contains 10 questions about types of violence, symptoms, associated syndromes and behavior, notification and medical
management. With those answers to the questionnaire it will be possible to plan an intervention with information about CDV to improve the doctors’ knowledge and correct flaws in this theme.

**Results:** Until this moment a total of 416 notifications from January to June 2016 were analyzed; 33,17% of these are male victims and 40,62% female. The victims’ genders were not identified in 109 cases (26,21%). Regarding the complaints’ source: CPS line (37,5%), anonymous complaint (25%), Hospitals (11,78%), Pre Hospital Unit (PHU) (7,69%), Schools (6,25%), Primary Health Care Unit (PHCU) (6%), Social Service (1,44%), other cities’ CPS (1,44%), Women’s Police Station (1,2%), City Police Station (0,72%), Public Prosecutor’s Office (0,5%), Childhood and Youth Police Station (0,24%) and Civil Defense (0,24%).
Regarding the victims’ age, 26,92% of the children are between 0 and 5 years old, 16,83% between 5 and 10, 11,54% between 10 and 15 and 1,92% between 15 and 18, however 42,79% did not identify the age. The data collected towards the violence types were: suspected sexual violence 17,79% (82,43% female; 14,86% male), 51,44% negligence cases (34,58% female; 30,37% male), 39,66% physical violence (26,67% female; 48,48% male). From those complaints, 8,89% were both negligence and physical violence cases.

**Discussion/Conclusion:** Negligence is defined as careless behavior and abandonment by parents or caregivers.3,4. As we can observe, negligence is the most predominant kind of violence within the described violence types, in accordance with Silva and Ferriani5. In addition to the total of complaints, sexual violence and negligence cases were predominant among females. Domestic violence identification is the acknowledgement or suspicion of violence situation against children by observing signs.5 Moreover, it’s possible to see a lack of preparation among doctors to identify those cases, once the complaints originated from PHCU, PHU and Hospitals represent only 25,47%. Knowing that the PHCUs are the main access to the Brazilian Public Health System, it is expected that CDV cases are noticed and notificated there. Finally, we can conclude that CDV is still very underreported, showing the lack of preparation of all the health professional involved. The official data regarding this theme is insufficient, therefore the data collected represents a small portion of reality.
SCREENING OF CARDIOVASCULAR RISK FACTORS IN POLICEWOMEN OF PACIFYING POLICE UNITS

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Mentor name: Aragao, I.P.B

Background/Introduction: Coronary heart disease (CHD) may be clinically different in women when compared to men being underdiagnosed and treated. Worldwide, heart disease and stroke are the leading cause of death in female gender with 8.6 million deaths per year, as mentioned by literature.

Objectives: to identify the prevalence and self knowledge of cardiovascular (CV) and stroke risk factors in policewomen of the Pacifying Police Units (PPU).

Methods: Observational and cross-sectional study, All policewomen answered an one-minute and anonymous questionnaire of 30 questions about age, stress level, tobacco smoke, hypertension, dyslipidemia, physical inactivity, obesity, diabetes and family history of CHD between 05/10/2013 and 10/10/2013. A positive answer or the lack of knowledge were equivalent to a point. Considered high risk group: two or more positive answers or the lack of knowledge. They've attended to encouraged lectures about cardiovascular risk factors.

Results: Total of 32 PPU, 602 policewomen, average age 28.1 years, 31% high stress level; 7% tobacco use; hypertension 7% (lack of knowledge in 7%); 76% have already measured cholesterolemia (87% unknow the level); 76% have already measured glycemia (30% were unaware; 16% of family history of CHD and stroke; 51% unaware body mass index (BMI); BMI was calculated: 59% ≤25, 23% >25 and ≤30, 18% without weight and/or height; 53% physical inactivity; 92% denied preview CHD. 90% used to visit gynecologist but only 12% to a cardiologist. It was identified 97% with ≥2 points.
Discussion/Conclusion: High prevalence or unknoeledge of CV risk factors and stress level activity in this population.
Background/Introduction: This poster is an actual account regarding the experience with the use of technology resources aimed to facilitate entering info from state program files for Primary Health Care (APS).

Objectives: Facilitate entering info from state program files for primary health care.

Methods: This is an actual report of the experience regarding the adaptation of the registration form of the reorganization plan of attention to hypertension and diabetes mellitus - HIPERDIA. A form in Numbers® program was created, which automatically generates a file in spreadsheet format, similar to MS Excel® program, which facilitates the organization of data and analysis of information.

The author purchased Numbers® Program in the virtual store, whose cost amounted approximately R$ 30,00 to be used in Tablets. A form was created based entirely on HIPERDIA. It was possible to also create some autocomplete resources, namely the number of the national health center (CNES), street identification, areas and micro areas, as well as automatic calculations such as Body Mass Index (BMI), which is essential for the classification of risk.

Results: The typing time was reduced by half and depending on the skill of the professional, it takes between 2 to 4 minutes for each record. the risk of repetitive strain injury generated by typing was reduced.

Discussion/Conclusion: We live in the information age, but not necessarily in the communication age. Great strides and unlimited access at all levels are expected today, but it is not what happens in reality. Obviously, the same applies to health care (Dalla, 2008). Despite
the growing interest in the adoption of information technology (IT) in the area, the advance in the technology varies among health care organizations and can be analyzed at various levels, that is, functional advance, technological advance and level of integration, all converging to the betterment in the quality of health care to the people attended (Jaana, 2005). Advances are limited and the exchange of health care information (TIS) has been a problem, despite government efforts in countries that adopt National Health Systems (Anderson, 2002). There is great difficulty in connecting to the Internet, which limits the TIS and is most felt in large urban centers and peripheries. Still it is possible to adapt some IT resources that are currently available only on paper. The example screen facilitated greatly the form filling, however it is what generates more data for the prevalence of cardiovascular conditions.

The example of the adaptation of the SIS - HIPERDIA form, speeds not only the data entry, but also the processing of information, once the info entered can be sent immediately to the processing center. Hence it gets to the Health Care Unit or to some point of wireless Internet, avoiding intermediaries. It is also possible to set up local databases for analysis in real time, making the decision making process faster and closer to the population. The use of tablets and smartphones are every day being expanded by the population, and as the basic mechanism generated by using the tool used in this report is the same as MS Excel® program, very well known and easy to use, it will provide the increase of the local health care planning process.
LITERATURE REVIEW ON PAGET’S DISEASE OF BONE: AN EPIDEMIOLOGIC APPROACH

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Mentor name: Lopes, I. F. - UFSJ; Oliveira, A. - UFSJ

Background/Introduction: Paget’s Disease of Bone (PDB) is a chronic disorder originated from osteoclastic irregular function. The condition can cause pain, spontaneous fractures and arthritis, although it is mostly asymptomatic, resulting in many undiagnosed patients. When untreated, PDB can lead to loss of hearing, paralysis and develop into a primary bone cancer, hence the need to establish new parameters to aid the diagnosis. Tracing an epidemiologic pattern can help provide early diagnosis and treatment.

Objectives: This paper aims at reviewing scientific literature related to PDB, focusing both on epidemiologic and population genetics articles, and on case reports, in order to analyse current forms of diagnosis and data from high prevalence populations. Since PDB is a “silent” disease, many patients are misdiagnosed, which leads to a delay in treatment. This analysis may help physicians single potential patients out, resulting in less advanced cases of PDB.

Methods: The scientific articles and case reports analyzed had been published in international journals and were available in the PubMed database. Research projects that applied questionnaires to physicians were selected, in order to evaluate how PDB is diagnosed and treated in different locations, and whether the disease presents high or low prevalence in the country or region where the subjects work. Case reports were selected since they provide valuable information regarding methods of diagnosis and family history, which can help to trace the epidemiologic pattern proposed in this paper.

Results: Research studies from the Netherlands, Spain, England, Cyprus, Japan and Brazil indicate that PDB has a higher prevalence in Western Europe, in populations of Anglo Germanic origin, such as those in Germany, United Kingdom, the Netherlands, Belgium and
parts of France. The disease presents mild occurrence in Spain, Portugal and Italy, and is unusual in Scandinavia and Finland. PDB is considered a rare disease in both Africa and Asia. In both North and South America, PDB cases occur amongst Western European immigrants and their descendants. In Brazil, many case reports are from Recife, which was the capital city of Dutch Brazil in the 17th century, and there are strong indications of higher prevalence of the disease in Southern Brazil and in other areas of German immigration, although there were very few case reports from these locations.

**Discussion/ Conclusion:** The presumed undernotification of PDB in Brazil probably derives from the difficulty in establishing an accurate diagnosis of the disease, given that some symptoms may also be associated to other diseases and also due to the fact that many cases are asymptomatic. In addition, some health care professionals may have scarce information and knowledge on the condition and its relationship with specific populations, which may potentially lead to a good number of undiagnosed patients. Epidemiology focused research is a powerful tool in preventive medicine, since it favors diagnosis and consequently early treatment. Moreover, the correct notification of cases enables the implementation of public health policies targeted at the affected population, contributing to individuals’ life quality.
RECENT DENGUE EPIDEMIC IN RIBEIRAO PRETO

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Mentor name: Marcelo Motta Dutra

Background/Introduction: Dengue is one of the major public health problems in the world. It is estimated that disease reaches around 50 to 80 million people a year, distributed in over 100 countries around the globe. The transmission of the disease was first observed in the state of São Paulo in 1987, in a rural village called Ribeirão do Valle. During the summer of 1990, an epidemic of major proportions was recorded, which started in Ribeirão Preto and quickly spread to the neighboring municipalities.

Objectives: To analyze the incidence of Dengue epidemics in Ribeirão Preto.

Methods: A descriptive study of the epidemic years in Ribeirão Preto was conducted: 2011-2016, according to the information collected in the health Department of the city of Ribeirão Preto.

Results: Significant growth of data.

Discussion/Conclusion: The totalized numbers of the dengue epidemic in Ribeirão Preto are: 2011-23,384; 2012-317; 2013-13,179; 2014-400; 2015-4,949 and 2016-34,936 until the month of June. The high dengue rates show that the control programs have shown to be ineffective. There is a search for the solution through control programs in different means of information and vector eradication. From a more empirical analysis, it is common to witness a series of poor habits of the population, among other inadequate managements, as well as disrespect for the current environmental standards. The future medicine professional has an important role in controlling dengue. The socio-educacional vision of the student body regarding the control of Dengue is small, requiring the integration of theory and practical action with social reality.
ESTIMATING THE RISK OF DEVELOPING TYPE 2 DIABETES: SCREENING PRIMARY HEALTHCARE PATIENTS

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Background/Introduction: Over the past decade it has been obvious that the prevalence of type 2 diabetes is increasing rapidly. Unless appropriate action is taken, it is predicted that there will be about double of the current number of people in the world with type 2 diabetes by the year 2030. Equally alarming and less well known is the fact that just a small percentage, around one half, are known to have the condition.

Objectives: This study aims to make a screening in the population of patients from the University of Grande Rio’s clinic and to raise public awareness of the importance of diabetes. Therefore, the goal of this study is to search for patient’s blood glucose levels and type 2 diabetes risks factors in order to prevent and treat target patients.

Methods: This was a descriptive cross-sectional study conducted on May 2016 in the primary care clinic of the University of Grande Rio in Duque de Caxias, Brazil. Overall, 181 women and 46 men, aged 18–92 years, were assessed. The risk of developing type 2 diabetes was searched using the Finnish Risk Score (FINDRISC) questionnaire risk scores and the patients’ blood glucose levels. The following variables were assessed by the FINDRISC questionnaire: age, sex, body mass index (BMI in kg/m2), weight, heiht, and random blood glucose level. At the end of the consult all the patients were well-informed how to keep on a good life quality based on good nutrition and exercising habits.

Results: Data from 227 patients (79,7% female) were analyzed. The risk of developing type 2 diabetes increased with age. 179 of the patients were overweight (42,7%) or obese (36,1%). The prevalence of participants at high or very high risk was of 39,1% in men and 37% in women. 15,8% of all patients presented high levels of glucose. From the population over 65
years, 15.9% presented hyperglycemia. A considerable number of patients had dysglycaemia or was at risk for developing type 2 diabetes.

In men, the prevalence of participants at high risk of developing type 2 diabetes was the following: 26% (12–14). In women, the prevalence at high risk was: 28.1% (12-14). Overall, men and women tended to present similar risk of type 2 diabetes.

**Discussion/Conclusion:** Southern and Southeast regions of Brazil epidemiologically have a high prevalence of diabetes, due to bad lifestyle and diet habits. It is known that the population do not have the essential knowledge concerning their health quality, such as blood glucose levels (BGL’s).

Studies have not yet been proven that earlier detection will improve the outcome of people with type 2 diabetes, but it seems logical to suggest that it may help. The implication of this is that people need to be screened for diabetes on a regular basis.

Thus, the Finnish Diabetes Risk Score (FINDRISC) questionnaire is a reasonable, reliable and easy screening source to estimate risk of type 2 diabetes in primary healthcare surveillance. It evaluates patient’s health status and various potential risk factors.

Evaluation of the process and costs of this study are currently contributing to University of Grande Rio’s effort to shift diabetes prevention and management out of hospitals and into primary care.
INCIDENCE OF ZIKA VIRUS EPIDEMICS IN RIBEIRAO PRETO IN 2015

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Mentor name: Marcelo Motta Dutra

Background/Introduction: The Zika virus (ZIKV) is a mosquito-borne flavivirus (Aedes), similar to other arboviruses, first identified in Uganda in 1947. A great number of cases and some with neurological and autoimmune complications have been reported in a context of concurrent circulation of dengue viruses. With the international mass events that occurred in Brazil, expanded the stream of people and agents communicable diseases. In February 2015, seven months after the FIFA World Cup in Brazil, The Ministry of Health’s began to monitor the registration of cases of undertemined rash syndrome, in the states of Northeast of Brazil. The notifications of ZIKA started in Ribeirão Preto in may of 2015.

Objectives: To analyze the incidence of ZIKA epidemics in Ribeirão Preto.

Methods: A descriptive study of the epidemic year of 2015 in Ribeirão Preto, according to the information collected in the Health Department of the city of Ribeirão Preto.

Results: Significant growth of data.

Discussion/Conclusion: The totalized numbers of the ZIKA epidemic in Ribeirão Preto in 2015 was 8: May 1, June 1, November 1 and December 5. The ZIKA rates show an increase and that the control programs have shown to be ineffective. From a more empirical analysis, it is common to witness a series of poor habits of the population, among other inadequate management, as well as disrespect for the current environmental standards This situation requires the highest vigilance, especially since this disease is not well known and that some questions remain unanswered, concerning the reservoir(s) and modes of transmission, the clinical presentation, and possible complications.
ANALYSIS OF REFERRALS TO HOSPITAL EMERGENCY: A DESCRIPTIVE STUDY

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Mentor name: Stobbe, JC

Background/Introduction: Emergencies at the high complexity hospitals represent and entry door to well-equipped and human resource-full health services. In Brazil, transfers between hospitals are ruled by Resolution 1,672 / 2003 of the Federal Council of Medicine.

Objectives: In order to verify whether referrals are properly done, according to existing rules, we performed an observational study based on the analysis of patient referrals to the emergency department of Hospital São Vicente de Paulo (HSVP) – Passo Fundo, RS, from 01/01/2015 through 12/31/2015, obtained from file documents.

Methods: In order to verify whether referrals are properly done, according to existing rules, we performed an observational study based on the analysis of patient referrals to the emergency department of Hospital São Vicente de Paulo (HSVP) – Passo Fundo, RS, from 01/01/2015 through 12/31/2015, obtained from file documents. The considered variables were date, patient name, entry diagnosis hypothesis, signature and health professional record number, signature of the professional receiving the referral, patient’s or guardian’s signature, readability of the document and information relating to previous contact with the hospital. Information from patients transferred by Mobile Emergency Service (SAMU), return patients or faulty documents was excluded from the analysis. Analysis was based on the attribution of scores corresponding to the items present in the resolution. Statistical analysis was performed using Stata Statistics Software (11) and the results were presented descriptively as frequency distributions.
Results: On the 2,109 assessed referrals, 322 (15.3 %) missed the date, 357 (16.9%) were illegible, 889 (42.2 %) showed no information on previous contact with the hospital, 108 (5.1%) missed the patient's name, 907 (43.0 %) lacked diagnosis input, 88 (4.2 %) were not signed (4.2% , n = 88 ) and 166 (7.9 %) omitted the record number of the health professional who made the referral. With respect to receiving the patients, 2,102 (99.7 % ) (n = 2,102 ) were unsigned and all had no information about the receiving professional registration number. 99.9% of the forms lacked either patient’s or guardian’s signature. Regarding the score system, it was found that none of the referrals had all the items required by law and that 340 (16.1 %) (n = 340 ) had less than half the information required by law.

Discussion/Conclusion: The results show that the professionals responsible for referrals do not fill documents with required information, resulting in incomplete records. The evaluation of necessity of transferring patients, previous diagnosis and previous contact among professionals are factors that could reduce the referrals to emergency departments, helping to reduce overcrowding.
VACCINATION: SOCIAL ASPECTS AND HEALTH PROMOTION.

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Background/Introduction: Immunization allowed humanity to find cure to infirmities that for years killed indiscriminately. In Brazil, 1973, it was created the National Program of Immunizations in order to make the access to vaccines universal. Nowadays, this system is attached to SUS, promoting health to all. Yet, even with evidences of efficacy, there are anti-vaccine movements representing danger to the public health, which results in declining of coverage and the return of vaccine-preventable diseases outbreaks.

Objectives: The aim of this study is to present, through scientific literature, books and other research sources, the social aspects related to SUS’ vaccination policy and its success in health promotion. Besides, there is a focus on new outbreaks of vaccine-preventable diseases. The review’s intention is to explore the reasons behind differences among vaccination coverage in the population, in regard to criteria such as effective SUS vaccination policy and the non-vaccination at developed countries.

Methods: This literature review aimed to pursue the studies conducted since 2000 that focused on vaccination policies - both regarding the success achieved in promoting health and the difficulties of access in relation to the social aspects - and on the new outbreaks of immunopreventable diseases. For the location of the studies, the following descriptors were used: "social aspects and vaccination” and "health promotion and vaccination.". The literature review was conducted from May to July 2016, using the SciELO (http://www.scielo.br) and Lume (www.lume.ufrgs.br/) databases. In addition, it points out that the secondary information is from documents printed at magazines, books and statistics, among other sources.
Results: By analyzing studies on the explanations for delayed immunization in Brazil, there were some similarities. All are related to the so-called “access barriers”, which are factors that seclude the population from the health system, such as: the level of education among the elderly and the mother's lack of knowledge - that can mean a lack of clarity about the importance of vaccination policies and a lack of access to public policies in general -, the number of kids and per capita income of the family, the difficulty of arriving at the Local Health Unit (LHU) while it is open based on distance and opening hours, and the coverage of the Family Health Strategy since the greater the coverage of the multidisciplinary team of family health is, the closer the population is to primary health and therefore, to vaccination. All of these factors differs from the reasons for low coverage in developed countries, which are related to lack of faith in the practical effectiveness and biosecurity.

Discussion/Conclusion: For Travassos and Martins, the adherence to a health public policy is based on: the health system, in how structured it is and in the user. In Brazil, the health system is public and, within its limitations, has a great vaccination coverage. Thus, the adhesion depends on the user. However, this refers to both the practice is accepted by the user as the “access barriers” that seclude the population from the system and are related to the huge social inequality in the country. In the global context, the anti-vaccine movement gains strength. Although its is based on a refuted study by Andrew Wakefield, who proposed a link between vaccine and autism, the movement has brought severe consequences to public health with the resurgence of preventable diseases outbreaks. So, despite all the advances in health condition promoted by vaccination and while the health systems work to ensure equal access, groups have just decided they did not want to vaccinate, damaging their’s and other’s health.
PERSON CENTERED MEDICINE AND THE PRACTICE ON PRIMARY HEALTHCARE IN THE MEDICAL COURSE OF THE FEDERAL UNIVERSITY OF SANTA CATARINA, SOUTH OF BRAZIL.

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Background/Introduction: The Person Centered Medical Model proposes the person, and its health, as the center and object of care. The Primary Care appears as the best place to implement the model. The students of the Course of Medicine of the Federal University of Santa Catarina take practical lessons in PHC centers. It is presented here an educational experience with undergraduate medical students in their first semester of studies. Its aim was to analyze the degree of approach to the principles of PCM.

Objectives: Describe the degree of approach of the practices and ideas of PHC teams, which receive medical students of the Federal University of Santa Catarina, and correlate it to the components that characterize the Person Centered Care model.

Methods: Descriptive qualitative study with teaching order. Interview on a convenient sample of users and workers of the Primary Care Teaching Centers in Florianópolis, the state capital of Santa Catarina, which is among the Brazilian cities with better coverage and structure of Primary Health Care. The University has an agreement with the city’s administration and the practice lessons of the students occur on those Primary Care Teaching Centers. The sample consists of 15 people, which 10 were users and 5 were workers, in five different PHC centers within the city. Interviews were applied with semi-structured and open questions based on two different scripts, for users and workers.
Results: Among the words most frequently mentioned by users were the principles of Person-Centered Medicine, as "attention", "care" and "trust", suggesting that those principles are included in health care. It was also noticed the qualified listen, without unnecessary interruptions, and proposition of therapeutic plan with the patient. It transpires, however, user reviews of some workers, which should "see them as people, not as disease carries." Among the features a doctor should not have, "negligence", "impatient" and "bad-mood" appear. The PCM is known by most workers, and many discussed in their meetings.

Discussion/Conclusion: The teaching healthcare teams studied know about the person-centered medicine and largely try to implement their principles, even though they do not always succeed. The interviewed health professionals praised the initiative and the research itself. The issue deserves more attention from the University, overlooking the effectuation of the clinical model in the student practices for the formation of a more humane and more effective medical practice.
THE QUALITY OF LIFE OF ELDERLY PATIENTS WITH HIV/AIDS

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Background/Introduction: Currently, infection with human immunodeficiency virus (HIV) in the elderly has been a topic discussed, due to the increased number of HIV cases in this population, which increased five-fold from 2007 to 2014, as Epidemic Update HIV / AIDS 2015. Furthermore, immune weakness complicates the differential diagnosis of HIV / AIDS in the elderly, because of the similarity of symptoms/signs, and when it is established is at an advanced stage, significantly changing their quality of life.

Objectives: To evaluate the biopsychosocial aspects of quality of life of elderly patients with HIV/AIDS and the challenges of health promotion for these patients.

Methods: This is an integrative review of literature with articles of databases: Scielo, Lilacs and Medline, using the descriptors quality of life, elderly, AIDS/HIV. Inclusion criteria were articles published in the last 10 years in English, Spanish or Portuguese that dealt with the topic discussed.

Results: Older people with HIV / AIDS, in general, have relatively good quality of life. There are few studies on the subject, showing that treatment with antiretroviral drugs, participation in groups of living of the elderly, the support of family and religion contribute to the quality of life of patients, improve survival, help in fighting the disease and decrease anxiety forward the issue of death. Regarding the representation of AIDS, the elderly have a negative perception of guilt and shame, causing stress and psychiatric symptoms. They feel doubly discriminated against: by age and disease. The sexual contact is the primary means of infection because they are in menopause and can not become pregnant, the lack of guidance on AIDS in this age group and the low adherence to condoms for fear of reduced sexual performance. Besides, the non-
recognition of the sexuality of the elderly favors the diagnosis in an advanced stage of the disease.

**Discussion/Conclusion:** Therefore, the results indicate the need for guidance on HIV / AIDS for the elderly population in order to control the number of HIV-positive elderly. New studies on this reality and prepare professionals to better deal with the sexuality of the elderly and avoid late diagnosis disease since this favors the development of more severe opportunistic infections. Therefore, it is suggested that health teams promote a holistic and humane care of HIV-positive elderly, because in addition to physiological vulnerability of aging and all biopsychosocial changes in this stage, there is also the AIDS changes that affect the quality of life of these patients.
Background/Introduction: Dengue is a serious viral infectious disease emerging in muted tropical present in several continents with records of more than 50 million new cases per year, therefore, a global pandemic. The first epidemic of major proportions was recorded, in Ribeirão Preto started during the summer of 1990.

Objectives: To analyze the incidence of dengue epidemics in North Region of Ribeirão Preto.

Methods: A descriptive study of the epidemic years in North Region of Ribeirão Preto was conducted: 2011 – 2016/june, according to the information collected in the Health Department of the city of Ribeirão Preto.

Results: Significant growth of data.

Discussion/Conclusion: The totalized numbers of the dengue epidemic in the North Region of Ribeirão Preto are: 2011 – 5,776; 2012 – 61; 2013 – 3,406; 2014 - 62 e 2015 - 915; 2016/june - 7120. There is a search for the solution through control programs in different means of information and vector eradication. From a more empirical analysis, it is common to witness a series of poor habits of the population, especially in these neighborhoods, such as: improper storage and burning of solid waste in the streets; removal of vegetation, contributing to the dispersal vectors, resulting in the vector’s endo-household synanthropy; accumulation of waste in yards, with no sanitary concern; among other inadequate management, as well as disrespect for the current environmental standards Knowing the real epidemiological distribution of dengue is important to support actions of prevention and control of the disease, whether at a local, regional, state or federal level.
EVALUATION OF HEALTH CARE UNIVERSITY STUDENTS ON THE KNOWLEDGE ABOUT MULTIPLE SCLEROSIS THROUGH SURVEY FORM BY THE NEUROLOGY AND NEUROSCIENCE ACADEMIC LEAGUE (LANN/USCS) FROM THE MEDICAL SCHOOL OF MUNICIPAL UNIVERSITY OF SÃO CAETANO DO SUL (USCS)

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Background/Introduction: Multiple sclerosis is a demyelinating chronic disease with autoimmune etiology, related to serious neurological sequelae and to compromising life quality.

Objectives: In order to attend ABCEM (ABC Region MS Patients Association) and help them on the early diagnosis campaign, LANN/USCS developed a project to evaluate health care students’ knowledge on MS.

Methods: Between 20/03/16 and 20/04/16 health care students from USCS were applied a question and answer survey. The survey contained questions about epidemiological data (sex, race, age, risk factors and frequency of occurrence of MS), suggested a few most frequent symptoms related to MS and other unrelated ones, as well as questions on investigation through complimentary exams and MS treatment.

Results: One hundred and forty students were included (127 of Medical School, 05 of Physiotherapy, 01 of Nursing, 05 of Physical Education e 02 of Nutrition). One hundred and thirty eight students stated MS was known to them (98.6%). Fifty-seven students (40.7%) acknowledged that MS affects mostly young adults; thirty seven students (26.4%) said that MS affects mostly females and nine students (6.4%) claimed that it can affect young people. 40.4%
of the interviewees believe that heredity is associated as a cause of MS and 59.6% believe it is linked to an environmental cause. Manifestations acknowledged as the most frequent ones were: paralysis/weakness (86.4%), loss of balance (45.0%), vertigo (14.3%), sight impairment (15.7%), inability to walk (59.3%), altered speech (47.1%), loss of urinary control (24.3%), fatigue (16.4%) and double vision (4.3%). Regarding complimentary exams, MRI scan was mentioned by 65.7%. Only 41.4% of the students acknowledged the existence of specific drug therapy for MS. One hundred and three students (75.7%) believe a hearing care professional is necessary, one hundred and nineteen students (85.6%) think MS patients need an occupational-therapist and finally one hundred and thirty one students (94.2%) believe in the participation of physiotherapy in MS integrated treatment.

**Discussion/Conclusion:** In this study, we confirmed a high level of knowledge on MS among USCS health care students, which is quite positive and encouraging for ABCEM campaigns, which acts with the students in the university environment.
SOCIAL PROFILE OF ADDICTED WOMEN IN A BRAZILLIAN COMMUNITY

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Background/Introduction: The use of drugs is a remarkable public problem of global character. Although most studies are already focused on the use of alcohol or tabacco, there is a significant increase in the incorporation of women in research about he use of psychoactive substances, particularly cocaine.

Objectives: Obtain data about the abuse of drugs, including features and effects in its users.

Methods: A qualitative, exploratory study was conducted in Novo Paraíso II neighborhood in Cuiabá, in February 2016, six-addicted women who attend the Health Unit. Therefore, we performed a semi-structured questionnaire containing social aspects of involvement with cocaine and its derivatives.

Results: According to the data collected, the wholes of addicts use or have used coca paste at least once in their lifetime, and 83% of these started using before the legal age. Both curiosity, the influence of third parties and family dysfunction were also present factors in drug use motivation, and the main positive factor for preventing was the existence of a good family structure. Four addicts said that they have stopped at least once the use and two said that they had never stopped. To discontinue the use of it, two claimed that no help was needed or would be necessary. Either, two reported having need of medical treatment and other cited religion or fixed employment. To obtain the drug the most obvious way was to prostitute, and 50% reported having had this behavior. Five addicts have between two and five children. In total, 24 children were among all addicts, 20 are currently living and only 10 are in the care of these. Perceive the constant presence of the change in the item family or work, either by unemployment and loss custody, loss or absence of a steady partner, and missing or bad relationship with family.
Discussion/Conclusion: It was observed that drug addiction is evident in outlying areas and that the users of these sites are stigmatized. It follows also that most addicts started using the drug before the legal age and the main factor was found to family dysfunction. It appears that it is extremely important to encourage the building of family, social and cultural support and women's awareness of the harmful effects of the use of cocaine and its derivatives.
HISTORY OF POLLUTION IN CUBATÃO CITY (SÃO PAULO, BRAZIL) 80’S DECADE AND ASSOCIATED PATHOLOGIES

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Background/Introduction: According to the Houaiss Dictionary, pollution means "degradation of the physical or chemical ecosystem, by removing or adding substances". However, despite its definition easily found in a book, their consequences can never be resumed in such matter. In the world, several episodes entered history highlighting the harmful effects of pollutants, namely: the "Minamata disease" in Japan in 1956, that exposed the japanese people to Mercury; unfortunately the Minamata example in 1956, in Japan wasn’t sufficient to prevent something similar occurred in Cubatão years later (UNITED NATIONS, 2013). Finally, after winning notorious worldwide fame, with great repercussion in newspapers of the United States, Germany and England, the city in 1992, received the title of “Ecology Symbol and exemplified Global Environmental Recovery " given by the United Nations (UN), the same institution that once recognized the city as the most polluted in the world (BARBOSA; ALVES, 2012). The nuclear accident in Chernobyl in 1986 in Ukraine and nowadays the atmospheric pollution in India and China bring worries. In the later, the atmospheric pollution causes 350 to 500 thousand premature deaths a year, according to the former Chinese Health Minister Chen Zhu (Reuters, 2014). Brazilians also have the same problem; in the city of São Paulo, for example, the pollution in 2011 killed more people than the recognizable Paulist traffic in the current year: a total of 4,655 deaths, according to a survey coordinated by Evangelina MPA Araujo Vormittag, medical, specialist in Clinical pathology and Microbiology and a PhD in pathology from the School of Medicine, University of São Paulo (USP), and posted on the website G1 São Paulo (2013). However, the episode occurred in Cubatão in the 70’s and 80’s decade had a deep impact to society and the world.

In this context, unfortunately, it is clear that the old covenant that bound the primitive and its habitat was broken unilaterally by the human being, as soon as it considered it to be strong enough to follow only the laws enacted by itself (LOPES, 2010).
Objectives: The objective of this work is to perform a retrospective study about the history of pollution in Cubatão city in the 1980’s decade, as to exemplify the dangerousness that pollution presented and presents, in general, to the human health. Collect data about the abnormalities in community health in the region exposed to a variety of compounds widespread pollutants, environmentally, relating to diseases such as leukopenia, anencephaly / meroanencephalia, and other neurodegenerative encephalopathies.

Methods: Researches were performed in scientific articles, books, newspaper reports, and in other publications about the history of Cubatão pollution, and its consequences to the health of the population. Visits were made to the Municipal Archives in search of data, and to the Municipal Library/Cubatão-SP, where newspapers articles and other publications were found and served as a source of data for this project.

Results: It is essential to establish links between heavy metals, specifically mercury and its neurological consequences on the population of the region. Mercury compounds, the function of the altered protein has been established as a causal factor, inciting neurotoxicity and neurodegeneration (FARINA et al., 2014). As an electrophilic compound, methylmercury (MeHg) interacts with and oxidizes the nucleophilic groups of various biomolecules; sulfhydryl (thiol / thiolate: SH / S) groups are important targets and relevant MeHg in biological systems. Thus, interactions with proteins containing sulfhydryl MeHg (neurotransmitter receptors, i.e., carriers, antioxidants, enzymes, etc.), likewise with nonprotein thiols (i.e., glutathione, cysteine), they are crucial events mediating their neurotoxicity. By direct interaction with thiols as well as indirect mechanisms, MeHg can modify the oxidation state of -SH groups in proteins, modulating their functions (BOMFIM, 2009).

Therefore, the activities of various proteins containing -SH whose functions are crucial for proper homeostasis of neuronal and glial cells, i.e., creatine kinase, reductase GSH, Ca2 + ATPase, thioredoxin reductase, choline acetyltransferase and enolase are disturbed after exposure MeHg (FARINA et al., 2014).

Discussion/Conclusion: The city of Cubatão is located in the Santos coast, between the city of Santos and the elevations of the Serra do Mar (23° 45’ - 23° 55’ S and 46° 18’ - 46° 27’ W), a coastal mountainous region that rises up to 800 m above sea level. Inadequate topography of
the industrial complex located between the ocean and the steep slopes of Serra do Mar, combined with bad weather hampers the dispersion of polluting compounds, leading to drastic consequences (Furlan, 1999). According to Levinson and Shetty (1992), in 1981 the Cubatão city became known as "Valley of death" and the "most polluted place in the world", where no bird or insect lived. One community member said he had not seen a star for 20 years (LEVINSON; SHETTY, 1992).

In this context, the Parisi Village neighborhood in Cubatão-SP was the most affected area, being located in the midst of industries. In the early 80's, on Sunday there was no sun in this neighborhood, because industries took advantage of the weekends to launch its particulate matter by chimneys, making the air stifling and of gray appearance (PINTO, 2005). On the main chemicals released in Cubatão region in the eighties, it is concluded that occupying the first three places are, respectively, the carbon monoxide (8 007.1 ton / month), the sulfur dioxide (4 090.7 ton / month) and the nitrogen dioxide (2 313.9Although it was evidenced through the media much about the Cubatão pollution in the eighties, it is important to understand and emphasize, above all, two fundamental aspects on this subject: a) The pollution was not confined to the city of Cubatão; b) the pollution was not restricted to the eighties, only had its peak during this period. Some of Cubatão industries, for example, cast metal ions in the atmosphere, which are concentrated in the basin of the river Cubatão and they can to reach to the estuary of Santos (MUNICIPAL FILE). As well as in January 2015 the city suffered from the sulfur dioxide leak what considering the concentration of the gas and speed of the winds reached Four Companies industrial center ( Anglo American , Braskem , Petrocoque and refinery ) , in addition to core residential What bordering the river Cubatão and do OWN the city center. Already the sulphurous acid rain, resulting from sulfur leak, dehydrated leaves and made these fall under the areas of Costa e Silva neighborhood in Beira Rio and the cemetery belonging to the city in question, Cubatão / SP. The scene was approaching the autumn events (COASTAL DIARY, 2015). Sulphur dioxide comes as a risk for respiratory and immune systems (ATSDR). Note that the pollution of the city it is a process that still has weaknesses and that even today remains jeopardizing the quality of life of the population. In this scenario, sulfur dioxide leak occurred on January 20, 2015, exemplifies the situation of uncertainty, insecurity and vulnerability in to the residents of the city. More than 80 people were treated in hospitals with symptoms of intoxication (COASTAL DIARY, 2015). Days later, the city faced the phenomenon of acid rain due to leakage. However, in the 80's decade, sulfur dioxide also was present, ranking first among the main chemicals released considering its toxic effect due
to its presence in the water, air and soil, reaching the proportion of 4090.7 tons per month issued
(São Paulo State, 1982). Thus, the city knows this problem well, just to look in their history to
know that what is happening it is a repeated.
Finally, the contamination by heavy metals originating from the eighties and the years, which
are attested and reaffirmed at this moment as corroborate the studies cited, could have distanced
the prevalence of neurodegenerative diseases and malformations of the nervous system of the
exposed region of the prevalence and other regions not exposed to these risk factors, such as
environmental factors have neuropathies (metal poisoning) acting well characterized in the
literature in the pathogenesis of the disease.