

Oral Presentation

OP-01

SGP: 7754

Invasive fungal rhinosinusitis: neutropenia as a predictive and prognostic feature

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Keywords: fungi, neutropenia, sinusitis.

Introduction: Invasive fungal rhinosinusitis has a disastrous and rapid clinical course with a high mortality rate (60-90%), mainly in immunosuppressed patients. According to the literature, the severity and extent of neutropenia is the major risk factor for invasive fungal infection (count <500/dl). **Objective:** To investigate the predictive and prognostic value of neutropenia concerning the occurrence of invasive fungal rhinosinusitis. **Methods:** We studied 18 immunosuppressed patients with invasive fungal rhinosinusitis and 17 immunocompetent patients with non-invasive fungal rhinosinusitis as a control group. The variables evaluated were serum counts of neutrophils, lymphocytes and leukocytes; type of fungus; nasopharyngoscopy; type of treatment and survival. **Results:** Invasive fungal rhinosinusitis occurred only in immunosuppressed patients, the characteristics found in invasive fungal rhinosinusitis were necrosis in the nasal cavity; homogenous opacification and signs of bone erosion on the CT scan; the fusarium fungus as the most prevalent fungus; a higher frequency of death especially in young patients (27yo). The lymphocyte count was lower in invasive fungal rhinosinusitis, and death was associated with lower counts of leukocytes and lymphocytes. In logistic regression analysis, patients with the highest risk of death are those with less leukocytes (OR = 2:44, 95% CI 1.11, 5.38). **Conclusion:** Unlike the literature, this study suggests that invasive fungal rhinosinusitis was related to lower lymphocyte count, and death occurred more frequently in patients with leukopenia. Studies with larger sample sizes may clarify these relationships.

OP-02

SGP: 7924

Translation, cross-cultural adaptation and validation of the 22-item Sinonasal Outcome Test Questionnaire for Brazilian Portuguese

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Keywords: nasal polyps, natural orifice endoscopic surgery, quality of life, questionnaires, sinusitis.

Introduction: Quality of life questionnaires have been increasingly used in clinical trials to determine the impact of medical intervention or to assess the outcome of health care services. Among disease specific outcome measures, SNOT-22 was considered the most suitable tool for assessing chronic rhinosinusitis and nasal polyps patients. **Aim:** to perform the translation, cross-cultural adaptation and validation of the SNOT-22 to Brazilian Portuguese. **Methods:** Eighty-nine patients with chronic rhinosinusitis or nasal polyps submitted to functional endoscopic sinus surgery answered the questionnaire at pre and postoperative times. Furthermore, 113 volunteers without sinonasal disease answered the questionnaire too. Internal consistency, test-retest reliability, validity of measures, responsiveness and clinical interpretability were assessed. **Results:** the mean preoperative, postoperative and no sinonasal disease scores were, respectively, 62.39, 23.09 and 11.42 points ($p < 0.0001$), showing validity and responsiveness. Internal consistency was high (Cronbach's alpha = 0.9276). Reproducibility was sufficient both in inter-interviewer use ($r=0.81$) as in intra-interviewer use, within a

10 to 14 days interval ($r=0.72$). Surgery effect size was 1.55. The minimally important difference was 14 points and scores up to 10 points were considered normal. **Conclusion:** the Brazilian Portuguese SNOT-22 version is a valid instrument to assess chronic rhinosinusitis and nasal polyps patients.

OP-03

SGP: 8254

Correlation between chemokine gene expression and eosinophilia in eosinophilic nasal polyps

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Keywords: chemokines, cytokines, eosinophilia, gene expression, nasal polyps.

Nasal polyposis (NP) is an inflammatory disease of the nasal mucosa, mostly related to eosinophilia; and its pathophysiology is not yet clear. Today, there is an increasing number of cytokines, chemokines, adhesion molecules and their receptors being studied in this disease. **Objectives:** to compare the gene expression of RANTES and eotaxin-2 chemokines, their receptors, CCR3, cytokine IL5, adhesion molecule ICAM-1 and its LFA-1 receptor in eosinophilic polyps and normal nasal mucosa as controls and to establish a correlation between quantitative eosinophilia and the gene expression of mediators in nasal polyps. **Methods:** we quantified the gene expression through the RT-PCR technique in polyps and healthy nasal mucosa and quantified the eosinophilia by means of light microscopy. **Results:** we found elevated expression of eotaxin-2, RANTES and IL5 in NPs, and a direct correlation between quantitative eosinophilia and gene expression of eotaxin-2 and CCR3. Such data stresses the importance of chemokines and their receptors in eosinophilia-related NPs.

OP-04

SGP: 8394

Sinonasal disease assessment in pre-bone marrow transplantation patients

Author(s): Rafael Panizza Leutz, Michelle Fantin Yakabe, Adriano Guirado Dias, Rael Lucas Matimoto, Atilio Maximino Fernandes, Erika Rodrigues Pontes Delattre

Keywords: bone marrow transplantation, CT scan, sinusitis..

Bone marrow transplantation has been increasingly performed in Brazil and one of the most important reasons for their failure are opportunistic infections that occur due to immunosuppression. Rhinosinusitis is one of the most prevalent illnesses in transplant patients, ranging from 1 to 33% in bone marrow transplants. The screening of sinonasal pathologies pre BMT remains controversial, mainly concerning CT scan. **Objective:** The objective of this study is to assess the best means to evaluate of sinus pre BMT. **Method:** A prospective study in which patients undergo clinical evaluation, endoscopy and CT scan before being submitted to BMT. **Results:** Only 8.3% of the patients had sinusitis before the BMT and the diagnosis did not require a CT scan. There were no cases of sinusitis complication after BMT and no action was taken based on pre BMT tomography. **Conclusion:** Initial results suggest that clinical evaluation and endoscopy performed by otolaryngologists is the best strategy to evaluate sinus disease before BMT, thus eliminating the need for CT scan.

Upper Respiratory Infections: Evaluation of Risk Factors and Management

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Keywords: epidemiology, respiratory tract infections, risk factors.

URIs are frequent and most are viral-related; and they have numerous risk factors. There are discrepancies among papers concerning these factors and URI management. Our objective was to analyze these factors and the management strategies used by Brazilian ENTs. Thus, our study was prospective, epidemiological, multicentric and observational in which we sent questionnaires to the doctors. We found a high prevalence of bacterial infections, allergic rhinitis associated with rhinosinusitis, and a positive influence of anti-pneumococcal vaccination associated with a reduction in the prevalence of tonsillitis. Other diseases, such as suppurative otitis and otitis externa were more common among less educated people. We could also notice a very frequent use of steroids and antibiotics. Therefore we confirmed some already established risk factors and how frequent antibiotics and corticosteroids are prescribed.

The influence of diabetes mellitus on cochlear electrophysiology

Author(s): Ariane Solci Bonucci, Milton Cesar Foss, Maria Cristina Foss De Freitas, Miguel Angelo Hyppolito

Keywords: audiometry, auditory, diabetes mellitus, evoked potentials, evoked response, hearing loss.

Diabetes mellitus (DM) and hearing loss are health problems that affect large parts of the population; therefore, it is very important to investigate the correlation between them. The objective of this study was to assess changes in auditory function caused by type-2 diabetes (DM2), especially in electrocochleography (EcoG), and to compare the results with the control group. We evaluated 26 type-2 diabetic subjects and 23 individuals in the normal control group, aged between 20 to 50 years. The evaluations were: pure tone audiometry, acoustic immittance measurements and EcoG. The questionnaire showed that most individuals did not have diabetic complications, i.e. retinopathy, nephropathy, neuropathy and cardiovascular disease. There was a statistically significant difference concerning nephropathy and the PS/PA ratio in the EcoG. There was no statistically significant difference between the drugs (insulin and/or oral drugs) used by patients and the blood tests for glucose and glycated hemoglobin when compared with the EcoG results. The audiometry revealed that only 8% of the patients had bilateral mild sensorineural hearing loss. All control subjects had normal hearing. Concerning the EcoG, we found a statistically significant difference ($p \leq 0.05$) between variables ms PS / PA, uV PS / PA, ms PS and ms PA. The experimental group had a higher PS / PA ratio when compared to the control group. We observed an abnormal increase in the PS / PA ratio in eight diabetic patients. This result supports the importance of periodic followup of these patients, aiming an early detection of the hearing loss, as well as the necessary steps for prevention.

Hearing preservation and facial nerve function analyses for patients undergoing vestibular schwannoma surgery: middle cranial fossa approach versus the retrosigmoid approach - personal experience and literature review

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Keywords: acoustic neuroma, facial nerve, hearing.

Introduction: Hearing loss and facial nerve dysfunction compromise the quality of life of patients submitted to vestibular schwannoma (VS) surgery. **Objective:** To compare hearing preservation and facial nerve function outcomes in patients undergoing vestibular schwannoma surgery performed using either the middle cranial fossa approach or the retrosigmoid approach. **Materials and Methods:** A review of the medical records of patients diagnosed with VS who underwent surgery for tumor removal in

a single reference centre via the middle cranial fossa approach (MCFA) or the retrosigmoid approach (RSA), between January of 1988 and December of 2008. **Results:** During this period, 90 patients underwent MCFA, while 86 patients were operated via the RSA. Of the patients subjected to the MCFA, 80.7% were classified as House-Brackmann (HB) grade I-II after surgery, whereas 96.5% percent of the patients submitted to RSA were classified as HB grade I-II after surgery ($p = 0.001$). This difference was shown only for tumors outside the meatus when we compared size-matching tumors (58.3% MCFA versus 98% RSA; $p = 0.0006$). There was no statistically significant difference in the hearing outcomes considering hearing preservation vis-à-vis classes A and B of the Sanna classification (18.9% MCFA versus 10.6% RSA; $p = 0.122$). **Conclusion:** No statistically significant difference in hearing preservation was identified in comparing tumors operated upon via the MCFA versus the RSA. Our results indicate that a higher risk of facial nerve function impairment exists if the surgery is performed via the MCFA when the tumor extends to the cerebellopontine angle.

Middle Ear Mucosa and Biofilm Formation study in Chronic Otitis Media (COM)

Author(s): Matheus de Souza Campos, Eduardo Tanaka Massuda, Miguel Angelo Hyppolito

Keywords: biofilms, otitis media, scanning electron microscopy.

Chronic otitis media is characterized by an inflammatory process in the middle ear lasting for more than three months and irreversible tissue changes. Biofilms are communities of bacteria such as *Pseudomonas aeruginosa*, *Haemophilus influenzae*, *Streptococcus pneumoniae*, and *Staphylococcus aureus*, embedded in an extracellular matrix of polymer substances of their own synthesis, adhering to the mucosal surface. Treatment with conventional antibiotics is ineffective, maintaining the chronic inflammatory process. For an effective treatment and for in order to understand the mechanisms of bacterial resistance, it is important to locate and define the characteristics of this process. **Methods:** we collected and submitted to scanning electron microscopy the samples of ear mucosa from 20 patients with a clinical diagnosis of chronic otitis media submitted to surgical treatment. **Results:** Thirteen of the 20 patients investigated (65%) presented biofilms with an organized histopathological structure. Hereby, we report the diagnosis, type of surgery, presence of preoperative otorrhea and its appropriate control after surgery in each study group. **Conclusion:** Biofilms were detected in the ear mucosa of patients with chronic otitis media. Their presence impairs the control of otorrhea, and complete removal is necessary to control the chronic infection.

Continuous glucose assessment in patients with tinnitus

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Keywords: blood glucose, hearing, tinnitus.

Tinnitus prevalence is extremely high, especially in the elderly. Metabolic diseases are among the causes of tinnitus. Changes in glucose metabolism have long been implicated in some cases of peripheral vestibular disorders and associated symptoms such as tinnitus. For the lack of well outlined papers and changes in the methodology for measuring insulin, which followed classical papers, the true role of hyperinsulinemia, in particular, reactive hypoglycemia in the etiology of cochleovestibular changes, remains under discussion. This study aims at evaluating glycemic changes within 72 hours of continuous glucose monitoring in patients with tinnitus. In this prospective study, we studied 10 tinnitus patients who had their metabolic status and blood glucose measured during 72 hours by CGMS (continuous glucose monitoring system). The average results were: duration of tinnitus: 11 years; BMI: 30; waist-hip ratio: 0.95; fasting glucose: 96 ± 5.8 ; fasting insulin, 8.7 ± 4.3 ; total cholesterol: 212 ± 42 ; triglycerides: 138 ± 85 ; LDL: 138 ± 29 ; HDL: 46 ± 8 . In glucose monitoring, 30% of 10 patients had hypoglycemia. Therefore, in this preliminary study, we observed some hypoglycemia and hyperglycemia by CGMS. However, the data needs to be complemented in order to determine the actual role of glucose in the genesis of tinnitus, with a higher the number of cases.

New structures on the epitympanic endoscopic anatomy

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Keywords: anatomy, cholesteatoma, middle ear cholesteatoma, otolaryngology.

Introduction: In contrast to other means of studying the epitympanum, the endoscope brings about unparalleled access without disrupting the anatomy. The aim of this study is to outline the anatomy of the epitympanum through transcanal endoscopy. **Study Design:** Systematic dissection of anatomy specimens. **Methods:** We performed systematic endoscopic dissection of 20 ears from 10 fresh frozen anatomical specimens. A detailed flowsheet was filled up documenting the status of the lateral attic border, position of the tensor tympani muscle, the scutum and the incus support ligaments, and the supratubal recess, checking the patency of the anterior and posterior isthmuses. **Results:** None of the ears showed indication of previous chronic otitis media. The lateral incudomalleal fold was intact in all but one ear. The lateral malleal fold was intact in all specimens. The tensor tympani muscle fold was complete in 16 ears and partial in four. Two of these ears belonged to the same specimen. The epitympanic diaphragm was complete in 15 of the 20 ears from 10 anatomic specimens. **Conclusion:** The endoscope enables the assessment of the attic anatomy and integrity of the diaphragm without undue disruption of the anatomy. The epitympanic diaphragm is present in the majority of healthy ears and it can, in theory, serve as the anatomic basis for the isolated attic retraction.

The effects of treating upper airway in children with or without sleep apnea-hypopnea syndrome on attention tests and daytime sleepiness

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Keywords: adenoids, attention deficit disorder with hyperactivity, obstructive sleep apnea syndromes, palatine tonsil, sleep disorders.

Introduction: One of the most important issues in pediatric health is the large number of children and adolescents with sleep disorders, which is mostly caused by upper airway obstruction. Among the variety of implications that these disorders may carry out, attention disorders and daytime sleepiness should be mentioned for their relevance and contribution to quality of life. **Objective:** The purpose of this study was to evaluate the association between upper airway obstruction, daytime sleepiness and attention deficits in children and to assess the effects of upper airway treatment in these symptoms. **Patients and Methods:** This is a cohort study of patients treated for upper airway obstruction. The initial study population was comprised of 54 children, 36 in the treatment group and 18 in the control group. They were all submitted to attention tests and answered a questionnaire about daytime sleepiness before and 60 days after treatment. The controls were also tested on two occasions. Attention tests included the TAVIS-3 and Short Attention questionnaire, answered by the parents. The final analysis included 50 patients, 33 from the control group and 17 in the treatment group. **Results:** There was a statistically significant improvement in attention deficits and daytime sleepiness among the treatment groups compared to controls. This improvement was greater in the group that received surgical treatment. **Conclusion:** The results of this study indicate that the treatment of upper airway obstruction, brings about improvements concerning the symptoms of sleepiness and attention deficit.

Persistence or recurrence of obstructive respiratory disorders after adenotonsillectomy

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Keywords: adenoidectomy, respiration, sleep apnea syndromes, tonsillectomy.

Introduction: Oral breathing due to nasal obstruction may interfere on children's development, changing craniofacial growing, speech acquisition, deglutition, body posture, sleep quality and school performance. **Objective:** to analyze the persistence or recurrence of obstructive breathing disorders (OBD) in children after adenotonsillectomy (AT). **Methods:** 175 children, aged between 3 and 12 years, submitted to AT between 2002 and 2006 in a university hospital, answered a questionnaire regarding age, weight, height, current respiratory pattern (nasal, mixed, oral), allergic rhinitis, OBD (snoring, apnea, sleep disruption), orthodontics and need for a second surgery. **Results:** Out of 175 patients, 126 (72%) showed altered respiratory pattern, 30 had exclusive oral breathing; 114 (65%) were diagnosed with allergic rhinitis, only 58 were using medication regularly, and 17 had asthma. Symptoms of OBD recurred in 56 patients (32%), mostly after 2 years of the AT, 3 were submitted to a second surgery. Sixty-eight patients were submitted to an orthodontic treatment. **Discussion:** Recurrence or persistence of OBD after AT is frequent, mostly when associated to allergic rhinitis. With impaired oronasal flow, intra-oral pressure is reduced, leading to functional and anatomic disorders. Craniofacial disorders (maxilla hypoplasia and long face) are risk factors for developing OSA at adult age. **Conclusion:** Adenotonsillectomy should not be the only treatment, one must strive for a better interaction between speech therapists, orthodontists and otolaryngologists for the good of the patients.

Evaluation of the effectiveness of adenotonsillectomy in children with obstructive sleep apnea

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Keywords: adenoidectomy, obstructive, polysomnography, sleep apnea.

Objective: To evaluate the effectiveness of adenotonsillectomy in children with OSAS diagnosed by polysomnography (PSG), as well as the factors that may be associated with postoperative residual OSA. **Materials And Methods:** A prospective study of 17 children (6.7 ± 2.36 years) with clinical and polysomnographic OSA undergoing adenotonsillectomy. These children were followed up postoperatively by clinical assessment, endoscopy and PSG. **Results:** adenotonsillectomy brought about significant improvements in symptoms and in the polysomnogram (mean preoperative HAI of 4.3 vs mean postoperative HAI of 0.9, $p < 0.05$). However, of the 17 children, 7 had residual OSA one year after surgery (41.7%). There was no correlation between the presence of residual OSA with age at surgery, the child's BMI and tonsil size before surgery. Among children with residual OSA, two had adenoid postoperatively and the other had no pharyngeal or laryngeal hypertrophy that could justify no improvements in the polysomnogram. **Discussion:** adenotonsillectomy has been a very effective method to bring about clinical improvement in the vast majority of children with OSAS; however, there are only a handful of studies which evaluated the cure rate of apnea in this population. The present prospective study showed that the effectiveness of adenotonsillectomy in children with OSA, as measured by objective criteria (nighttime PSG), has lower success rate than the corresponding clinical criteria. **Conclusion:** The clinical improvements observed by parents in children undergoing adenotonsillectomy does not necessarily correlate with polysomnogram improvements in OSAS. Studies with more patients are needed in order to better define which patients could have residual OSA.

The role of viral infections on tonsils hypertrophy and recurrent tonsillitis

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Keywords: adenovirus infections, bocavirus, enterovirus, human, rhinovirus, tonsillitis.

Introduction: Chronic upper respiratory diseases are very common and bear great socioeconomic and public health impact. However, very few are

the studies concerning the role of virus in the genesis of these diseases. **Objective:** The present study aims at assessing whether the presence of respiratory adenovirus, bocavirus and picornavirus (including enterovirus and rhinovirus) on adenoids and tonsils may induce the development of chronic diseases in these tissues, namely, recurrent tonsillitis and adenoid hypertrophy. **Materials and Methods:** Samples of tonsil and adenoid tissues of 60 patients with no acute symptoms, undergoing tonsillectomy, were sent to the laboratory for viral detection by real-time PCR. Each patient was associated to a standard protocol containing relevant clinical information for the study. Correlations between clinical data and virus findings were submitted to statistical analysis by the Fisher's test. **Results:** Patients were aged between 3 and 14 years (mean age=6.4 years). There were 28 (46.7%) males and 32 (53.7%) females. Among all tonsil samples, picornavirus was detected in 24 (40%); adenovirus in 17 (28.3%) and bocavirus in 3 (5%). Among adenoid samples, picornavirus was detected in 27 (46.55%), adenovirus in 28 (48.27%) and bocavirus in 11 (18.96%). In tonsillar tissue, the correlation between recurrent tonsillitis and the presence of virus was not statistically significant. Among adenoids, there was a correlation between adenoid hypertrophy and the presence of picornavirus ($p=0.0287$). **Conclusion:** Picornavirus may be associated to adenoid hypertrophy. Such correlation was not observed for the other viruses, neither for recurrent tonsillitis.

OP-15

SGP: 8622

Anti-inflammatory use for pediatric post tonsillectomy analgesia

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Keywords: analgesia, pain measurement, postoperative care, tonsillectomy.

Introduction: Pain is common in the tonsillectomy postoperative and despite the increasing use of analgesic drugs, it still is as a major concern in surgical planning. **Objectives:** To evaluate the use of anti-inflammatory agents for pain control in postoperative pediatric patients undergoing tonsillectomy. **Methods:** This clinical trial is a randomized, prospective study, involving 105 children who underwent adenotonsillectomy, divided into three groups. Group A consisted of patients who used ibuprofen; group B with those patients who used prednisolone and Group C consisted of patients who did not use NSAIDs, but dipyron only. The children were asked about pain in the first five days after surgery using a scale of facial expressions; parents/guardians answered descriptively about the children's meals, complications, need for symptomatic medication and they used a score from 0 to 2 to quantify their answers. **Results:** The groups were homogenous regarding gender and age. There was no difference between the groups concerning bleeding and the need for symptomatic medication. There was a faster progression concerning food intake and pain control among those patients who used ibuprofen and prednisolone. There were no differences regarding complications such as nausea and vomiting, but the presence of fever in those days was lower in the group using ibuprofen. **Conclusion:** anti-inflammatory drugs have proven to be safe and effective for controlling pain and postoperative fever, helping in the recovery from surgery those children submitted to tonsillectomy.

OP-16

SGP: 8238

Correlation between the number of canalith repositioning maneuvers and nystagmus termination in patients with BPPV in a University Hospital

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Keywords: dizziness, semicircular canals, vertigo.

BPPV a vestibular syndrome of peripheral origin triggered by a sudden change in head position. Different procedures may be used to confirm the diagnosis, and the Dix-Hallpike maneuver is the one most performed for the anterior and posterior semicircular canals. The most used maneuver to treat BPPV is the Epley's. **Materials and Methods:** This retrospective study

investigated the charts from 23 patients diagnosed with BPPV. **Results:** We analyzed the records of 23 patients with BPPV, and 83% were female. Age was broken down into zones, with a prevalence of patients between 40 and 49 years (40%) and it ranged from 34 to 83 years, with mean age of 53.34 years. Patients with BPPV confirmed by Dix-Hallpike maneuver underwent Epley maneuver. All patients who underwent two maneuvers evolved to a cure, confirmed by a new Dix-Hallpike maneuver. Among patients who underwent four or more maneuvers, six (26%) became symptomless. Three patients (14%) had complaints during the maneuver. **Conclusions:** The number of modified Epley maneuvers varied according to etiology, and BPPV secondary to head injury required more maneuvers for vertigo termination.

OP-17

SGP: 8286

Prevalence of vestibular disorders in individuals with metabolic syndrome

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Keywords: electronystagmography, metabolic diseases, vestibular diseases.

Metabolic Syndrome (MS) is a prevalent disorder that increases cardiovascular risk (CVR) and increases the risk of developing DM. Metabolic disorders are also associated with vestibular symptoms. This study aims at investigating the occurrence of abnormalities in the vestibular system using vector-electronystagmography (VENG) in patients with metabolic disorders and its relationship with the CVR. Seventy-eight individuals were evaluated. They were not diabetic or used medication. Their ages varied in 38.1 ± 10.7 years and 74.4% of them were females. After clinical and laboratory evaluation, 38% were diagnosed with MS. The groups were matched in gender and age. For the metabolic syndrome analyses we measured BMI, waist circumference, systolic BP, diastolic BP, triglycerides, fasting glucose, and glucose at 120 minutes which were significantly higher in MS patients. In the comparative analysis of both groups, the presence of vestibular disorders were found in 33.3% of the group without MS. We noticed that the MS group reported more dizziness spells when compared to the group without MS ($p = 0.01$). VENG findings in the MS group showed that 66.7% had abnormal findings. In the MS group, we found a significantly higher prevalence of irritative disease ($p < 0.0001$). We concluded that patients with MS have a higher prevalence of vestibular-cochlear abnormalities when compared to individuals without MS. It even occurs in patients recently diagnosed and without other complications. That suggests that vestibular disorders are an early manifestation of MS. Thus, patients with vestibular complaints should be routinely investigated for metabolic abnormalities.

OP-18

SGP: 8387

Malignant paroxysmal positional vertigo: A Preliminary Study of 32 Cases

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Keywords: dizziness, pathologic nystagmus, vertigo, vestibular diseases.

Introduction: Benign paroxysmal positional vertigo (BPPV) is a very common peripheral vestibular syndrome, characterized by the presence of vertigo and positional nystagmus with peculiar characteristics: latency, fatigue and habituation. The treatment is performed by repositioning maneuvers. When nystagmus is observed outside the pattern described - dissociated nystagmus or clinically unmanageable by repositioning maneuvers, we must consider the diagnosis of malignant paroxysmal positional vertigo (MPPV). **Aim:** to describe 32 cases of MPPV in an outpatient clinic of a tertiary hospital. **Method:** We reviewed the charts of 32 patients diagnosed with MPPV, who had been seen in the clinic in the past two years, using a standardized protocol. We collected data on gender, age, nystagmus and vertigo characteristics, etiology and topographic diagnosis of the lesion. **Results:** There was a slight preponderance of females with a mean age of 59.6 years. Only 6.3%

had not had any body balance complaints in the initial interview, with the overwhelming majority presenting without positioning nystagmus latency (75%) of prolonged duration (71.9%) and without fatigue (90.6%). There was vascular cause predominance and most of the lesions were found in the cerebellum. **Conclusion:** It is important to differentiate the diagnosis of BPPV and MPPV through careful clinical examination and to always consider the possibility of being faced with an MPPV when BPPV evolves badly.

OP-19

SGP: 8423

Efficacy of treating benign paroxysmal positional vertigo with repositioning maneuvers

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Keywords: dizziness, nystagmus, pathologic, treatment outcome.

Introduction: Benign paroxysmal positional vertigo (BPPV) is one of the most common causes of peripheral dizziness. The diagnosis is made by medical history, otorhinolaryngological and neurotological exams, and maneuvers as Dix-Hallpike and Brandt-Daroff. Management varies, and the repositioning maneuvers are very efficient as far as symptom resolution is concerned. **Objective:** to evaluate the efficacy of repositioning maneuvers in BPPV treatment and the number of maneuvers necessary to improve dizziness and positional nystagmus in patients with BPPV. **Materials and Methods:** we carried out a retrospective analysis of 51 charts from patients with BPPV treated by repositioning maneuvers. **Results:** we found that 54.9% of the patients improved with one maneuver only, and the Epley's was the one most used (76.47%). The posterior semicircular canal was the most affected - 91.5% of the cases. **Conclusion:** We concluded that the repositioning maneuvers are efficient in BPPV management, and most patients improved with a minimum number of maneuvers.

OP-20

SGP: 8558

Comparing conventional vestibular rehabilitation with virtual reality in patients with motion sickness

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Keywords: dizziness, motion sickness, treatment outcomes, vestibular diseases.

Introduction: Motion Sickness is intolerance to movement, on account of a conflict between sensorial vestibular, visual and proprioceptive information during passive motion in vehicles or visual field movement with the body being motionless. When vestibular rehabilitation (VR) is done by means of virtual reality aims at recreating environmental changes in order to adjust vestibular-ocular and vestibulospinal reflexes involved in balance strategies. **Objective:** present VR with virtual reality in patients with motion sickness and compare with the conventional protocol. **Methods:** Prospective study with therapeutic intervention in patients with medical diagnosis of motion sickness who were submitted to sessions of VR through virtual reality and Cawthorne and Cooksey conventional protocol for 4 weeks. The patients were assessed before and after vestibular rehabilitation by means of the Dizziness Handicap Inventory (DHI), the Visual Analogue Scale (VAS) for dizziness and computerized posturography. **Results:** After RV there was a statistically significant decrease in the physical, emotional and functional scores evaluated by DHI and in the patient's self-perception of the dizziness, as measured by VAS; and in the oscillation speed and the ellipse area of posturography in both groups. However, in comparing the groups, those who used virtual reality by VAS had better results ($p = 0.007$) after 4 weeks of the treatment. **Conclusion:** The VR with virtual reality provided adequate compensation to provocative stimuli with significant improvement in the patients' quality of life. And when compared to the conventional VR method, it is equally effective and tending to superiority in some parameters.

OP-21

SGP: 7941

Laryngeal lesion and mechanical ventilation duration in children

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Keywords: deep sedation, intratracheal, intubation, laryngoscopy.

Introduction: The risk factors for developing laryngeal lesions after extubation remain unclear. Its understanding is of paramount importance to potentially transform laryngeal stenosis in a preventable complication of intubation. **Objectives:** To investigate the importance of mechanical ventilation duration and other risk factors in the development of laryngeal lesion in children undergoing endotracheal intubation in the intensive care unit. Moreover, to determine the incidence of subglottic stenosis (SGS) in this population. **Materials and Methods:** All eligible children from zero to four years hospitalized in the Pediatric Intensive Care Unit (ICU) of the University Hospital of Porto Alegre who required endotracheal intubation for more than 24 hours were included. These children were monitored daily and, after extubation, they were subjected to nasopharyngolaryngoscopy (NPL). **Design:** Prospective Study. **Results:** We followed 142 children between November of 2005 and October of 2010. On initial NPL, 58 children (40.8%) had moderate to severe laryngeal changes. At the end of the study, the incidence of SGS was 11.3% (95% CI: 7.1 to 17.5). Multivariate analysis of the factors studied found that for every five additional days of intubation, there is an increase of 50.3% in the risk of developing SGS, and for each extra dose of sedation/day, a 12% increase in the likelihood of the same outcome. **Conclusions:** The duration of mechanical ventilation and the requirement for extra doses of sedation appears to be crucial factors for the development of SGS during endotracheal intubation.

OP-22

SGP: 7997

Surgical treatment for laryngomalacia: a series from a pediatric ENT service in a tertiary Brazilian hospital

Author(s): Renata Loss Drummond, Rita Carolina Pozzer Krumenauer, José Faibes Lubianca Neto, Fernando Stahl Hermes, Luciana Pimentel Oppermann

Keywords: airway management, laryngomalacia, respiratory sounds.

Introduction: Laryngomalacia is defined as the cyclical collapse of the supraglottic tissues during inspiration, leading to respiratory obstruction. It is the most common cause of stridor in childhood, accounting for 60% to 75% of cases in children under 2 ½ years of age. Clinically, the characteristic finding is inspiratory stridor. Up to 20% of patients have severe laryngomalacia, which required surgical intervention. Supraglottoplasty is currently the chosen method of treatment and the presence of comorbidities is considered the greatest prognostic factor impacting surgical outcome. Current techniques are based on treatment customization. **Objectives:** This study aims at describing a series of cases from a tertiary pediatric hospital, describing the techniques used, success rates of surgery and analysis of prognostic factors. **Methods:** We conducted a cohort study. The study included 20 patients with severe laryngomalacia who underwent surgery between July 2007 and May 2011 in a tertiary pediatric otolaryngology ward. **Results:** Of 20 patients, 13 (65%) were males and the average age at which they underwent surgery was 6.32 months. Endoscopy, 12 (60%) presented multiple types of laryngomalacia, 40% had associated pharyngomalacia and 3 (15%) had tracheomalacia concurrently. 15 (75%) patients underwent resection of the aryepiglottic folds and 20% required mucosal resection in the same procedure. Thirteen patients (65%) had isolated laryngomalacia, 7 patients (35%) had gastroesophageal reflux. After the procedure, 11 patients (55%) were asymptomatic and 2 (10%) required tracheostomy.

OP-23

SGP: 8109

Epidemiological study of infantile dysphonia in children aged 4 to 12 years

Author(s): Regina Helena Garcia Martins, Elaine Lara Mendes Tavares, Alcione Brasolotto, Renata Mizusaki Iyomasa, Caio Hidalgo, Thalita Azevedo Fracalossi

Keywords: child, epidemiology, voice disorders.

Introduction: Epidemiological studies on infantile dysphonia indicate rates ranging from 4.4 to 30.3%. **Objectives:** to determine the prevalence of dysphonia in children aged 4-12 years based on parental judgement and auditory-perceptual evaluation, to characterize the vocal symptoms, associated factors and videolaryngoscopy findings. **Cases and methods:** 2,000 children were randomly selected and allocated into age groups: 4-6, 7-9, and 10-12

years. Parents were asked to answer a questionnaire about their children's vocal features. The participating children underwent auditory-perceptual evaluation, acoustic assessment, and videolaryngoscopy. **Results:** among 2,000 children (1,007 males and 993 females) 206 children had sporadic vocal symptoms, and 123 showed permanent symptoms, according to the parents. Auditory-perceptual evaluation using the GRBASI scale revealed the following scores on the G parameter: 0 in 694, 1 in 1065, and 2 in 228 voice samples. Acoustic measurements indicated that f0 decreased as age increased in both genders, and higher jitter %, PPQ, shimmer %, APQ, NHR and SPI values. Nodules, mucous thickening, inflammatory processes and cysts were the most frequent videolaryngoscopy findings, particularly in children with G scores of 1 or 2. **Conclusions:** Parental judgement indicated a dysphonia prevalence index of 6.15%, which rose to 11.4% after auditory-perceptual analysis. Vocal symptoms were associated with vocal overuse and related factors were: noisy environment, allergy and nose obstruction. Acoustic measurements were directly related to auditory-perceptual analysis scores. Most frequently diagnosed laryngeal lesions on videolaryngoscopy were nodules, mucous thickening, inflammation and cysts, especially in children with a G score of 1 or 2 in the GBRASI scale.

OP-24

SGP: 8131

Immunoeexpression of protein P53 in Reinke's edema

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Keywords: dysphonia, tumor suppressor protein p53, voice disorders.

Introduction: Reinke's edema is considered a benign lesion, directly associated with smoking, leukoplakia and dysplasia. **Objectives:** To determine p53 protein immunoeexpression in Reinke's edema in order to identify possible malignant signs of this lesion. **Methods:** 67 blocks of Reinke's edema stored in the Pathology Department were collected and submitted to further slicing in order to expose p53 antibodies. The immunohistochemical analysis was based on the brownish color of the cell nuclei following two semi-quantitative scores: epithelial extension and fragment extension. **Results:** Of the 67 slides included in the study, p53 immunoeexpression was positive in 50 of them (74.6%). In these slides, the epithelium analysis turned out: negative (no staining, n-17), + (basal cells only, n-4), ++ (basal and parabasal cells stained; n-4) and +++ (all epithelial cells stained, n-42). The fragment analysis showed: negative (no cells stained; n-17), + (less than 10% of stained cells, n-0), ++ (11 to 49% of stained cells, n-3) and +++ (more than 50% of stained cells, n-47). **Conclusions:** The investigation of p53 protein expression in Reinke's edema was positive in 74.6% of the slides alerting us to the possible oncogenic route of this lesion and the importance of periodic videoendoscopic exams in the follow up of these patients.

OP-25

SGP: 8285

Value of laryngeal endoscopy in the diagnosis of laryngopharyngeal reflux

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Keywords: endoscopy, gastroesophageal reflux, laryngitis, laryngoscopy.

Introduction: Laryngopharyngeal reflux is an extra-esophageal variant of the gastroesophageal reflux disease. This is the most extensively investigated extra-esophageal syndrome. It is defined as the reflux of gastric contents into the larynx and pharynx. The diagnosis of laryngopharyngeal reflux is challenging. The laryngeal symptoms and signs of laryngopharyngeal reflux are generally non-specific and there is no pathognomonic laryngoscopic sign. **Objective:** The study's main objective was to correlate findings suggestive of laryngopharyngeal reflux on laryngoscopy with pH monitoring in patients under endoscopy without evidence of gastroesophageal reflux disease. **Materials and Methods:** This is a retrospective analysis of 33 patient records between January and December 2010 from patients with clinical and endoscopic diagnosis of laryngopharyngeal reflux. A pH monitoring was requested by the otorhinolaryngologist after the diagnosis of gastroesophageal reflux disease had been ruled out on the gastroenterologist's evaluation.

Results: The study found a close association between nasal fibroscopy findings and pathological values of the De Meester index. **Discussion:** The authors discuss the association between ear nose and throat symptoms, the results of esophageal pH monitoring and the value of nasal fibroscopy for laryngopharyngeal reflux diagnosis in a context where the gastroesophageal reflux disease was not identified by GI tract endoscopy. **Conclusion:** Our study found a significant correlation between the intensity of the positive nasal fibroscopy findings and pH monitoring for LPR. We conclude that these findings should not be disregarded even in the face of a considered normal gastroenterological evaluation

OP-26

SGP: 7883

Oral cavity cancer: follow-up and recurrence in the sentinel lymph node

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Keywords: carcinoma, head and neck neoplasms, mouth neoplasms, recurrence, sentinel lymph node biopsy, squamous cell.

Introduction: Sentinel lymph node biopsy (SLNB) in head and neck is a procedure that recently gained prominence in early stage tumors. The literature shows that the procedure has high sensitivity and high negative predictive value, intended to prevent unnecessary treatment in the clinically negative neck by identifying patients with occult disease. **Objective:** to evaluate the SLNB in patients with squamous cell carcinoma (SCC) of the oral cavity neck negative neck dissection (END). **Results:** We studied 29 patients, 87% male, mean age 58 years and mean follow up of 31 months. There were 22.5% T1 tumors, 62% T2, 15.5% T3 and 0.03%T4. Nine patients had positive SLNB, and 50% underwent adjuvant radiotherapy. In patients with negative SLNB (19), there was one patient with local recurrence and no neck recurrence. So far four patients died, two from the group of patients with positive SLNB, of whom one died of local recurrence, another died secondary to adjuvant treatment (RTX and QTX) with pneumonia. In the negative SLNB group there were two deaths for clinical reasons, none of them related to cancer, where only one had local recurrence and had complications from chemotherapy. **Conclusion:** SLNB appears to be safe and effective for head and neck SCC, with similar rates of neck recurrence, compared with the standard procedure (END) so far.

OP-27

SGP: 7998

Total laryngectomy for squamous cell carcinoma: peritracheostomal recurrence analysis

Author(s): Giuliano Bongiovanni, Raquel Garcia Stamm, Fernando Danelon Leonhardt, Marcio Abraão

Keywords: carcinoma, laryngectomy, recurrence, squamous cell.

Introduction: Emergency tracheotomy prior to total laryngectomy for laryngeal carcinoma has been associated with peristomal recurrence. **Objective:** to retrospectively analyze peristomal recurrence and the variables presented in the literature as risk factors. **Methods:** The charts of 195 patients submitted to total laryngectomy, from 1992 to 2010, were analyzed regarding peristomal recurrence and the risk factor usually associated with it, such as: age, gender, smoking, emergency tracheotomy, tumor stage and site. **Results:** One hundred and sixty-five patients (85.1%) were males and 169 (86.7%) were smokers. The age ranged from 32 to 86 years, with a mean age of 59.2 years. Tumor stage: 75 were T4 (38.5%), 100 were T3 (51.2%) and 20 were T2 (10.3%). The tumors presented subglottic extension in 59 patients (30.2%). Emergency tracheotomy prior to the total laryngectomy was performed in 88 patients (45.1%). Post-operative radiotherapy was performed in 142 patients (72.8%). Twelve patients (6.2%) developed peristomal recurrence; 4 were T4, 5 were T3 and three T2. In the patients with peristomal recurrence, 3 presented subglottic extension and 10 were submitted to post-operative radiotherapy. The average number of days between the emergency tracheotomy and the total laryngectomy was 77.4. All cases of recurrence occurred within 8 months of post-op. **Conclusion:** There was

no positive correlation between peristomal recurrence and emergency tracheotomy, tumor stage or site, subglottic extension or radiotherapy posterior to the total laryngectomy.

OP-28

SGP: 8134

Zenker Diverticulum: Evaluation of treatment results with open surgery and the endoscopic approach

Author(s): José Vicente Tagliarini, Maria Aparecida Coelho de Arruda Henry, Mauro Masson Lerco, Emanuel Celice Castilho, Fabíola Tracoli Novaes, Lídia Raquel de Carvalho

Keywords: diverticulum, esophageal, general surgery, natural orifice endoscopic surgery.

Introduction: Zenker diverticulum (ZD) is the most common among esophageal diverticula and different surgical techniques have been described for its treatment. Surgical diverticulectomy and endoscopic treatment are the most used. **Study Design:** retrospective. **Objective:** to comparatively analyze treatment outcomes of patients submitted to open surgery with those from patients submitted to endoscopic diverticulectomy using a linear stapler. We retrospectively studied 36 individuals. Diagnostic confirmation was achieved by esophagogram. Patients were divided in 2 groups: Group 1 (n=24): submitted to surgical diverticulectomy associated with cricopharyngeus muscle myotomy. Group 2 (n=12): submitted to endoscopic diverticulectomy carried out through rigid endoscope with a linear stapler. **Results:** 2 patients from G1 had transitory salivary fistula and 2 patients related transitory hoarseness. All patients recovered from dysphagia. In group 2 we did not have immediate complications. Dysphagia recurred in 4 patients, and a new endoscopic procedure was required. **Discussion:** comparing the 2 techniques we notice that hospital stay is shorter and morbidity is lower in G2 when compared to G1, enabling treatment to older patients who were not operated upon because of their physical conditions. On the other hand, surgery to remove the ZD associated with a myotomy of the cricopharyngeus muscle carried the least recurrence rates. **Conclusions:** We concluded that both procedures are efficient to treat dysphagia, and open surgery had higher success rates and a lower recurrence rate. The endoscopic procedure allows treatment for elderly individuals with comorbidities which prevent them from being treated by open surgery.

OP-29

SGP: 8211

Nasopharynx carcinoma: an analysis of the prognostic importance of matrix proteins and galectin-3 immunoexpression

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Keywords: fibronectins, galectin 3, laminin, nasopharyngeal neoplasms.

Objectives: to analyze the expression of galectin-3 and the distribution of matrix proteins, laminin, fibronectin and collagen IV, in 30 paraffinized specimens of nasopharynx carcinoma (NFC); and to correlate the clinicopathological characteristics, i.e. tumor aggressiveness and survival rates. Study design: retrospective clinical study. **Methods:** The analyses were performed by immunohistochemistry of the expression of matrix protein and galectin-3 in 30 tissue samples from 26 patients diagnosed with nasopharyngeal carcinoma. **Results:** The patients mean age was 48 years, with a peak age prevalence at 60 to 69 years, with a male predominance of 2:1. The undifferentiated non-keratinized squamous cell carcinoma was predominant in 23 samples (79%), differentiated non-keratinized squamous cell carcinoma was found in 4 samples (13.3%) and keratinized squamous cell carcinoma was found in 3 samples (10%). The laminin expression, which is normally restricted to vessel walls and the lamina propria, was increased in the neoplastic cell matrix of 23 samples (76.7%). Fibronectin was positive in 23 samples (43%). Galectin-3 was observed in 21 samples (70%). Seven cases showed a positive correlation between all three proteins. Eleven cases presented positive correlation of laminin and the galectin-3 immunoexpression. **Conclusions:** Fibronectin seems to reduce the chance of tumor recurrence and it increases survival rate, differently from laminin and galectin-3.

OP-30

SGP: 8374

A comparison of operative versus non-operative treatment for oral squamous cell carcinoma using propensity score

Author(s): Pablo Soares Gomes Pereira, Hugo Fontan Köhler, Carlos Takahiro Chone, Eder Barbosa Muranaka, Albina Messias de Almeida Milani Altemani, Agrício Nubiato Crespo

Keywords: carcinoma, mouth neoplasms, oropharynx, squamous cell, treatment outcome.

Introduction: Oral cavity and oropharynx squamous cell carcinoma (OC&OPSCC) are prevalent malignancies in the Brazilian male population. The treatment of OC&OPSCC currently involves a multi-disciplinary team approach led by the head and neck surgeon, the radiation oncologist and the medical oncologist. The aim of this study is to compare operative versus non-operative treatment of oral squamous cell carcinoma using propensity score matching. **Patients and Methods:** This study includes patients with OC&OPSCC treated consecutively at a single institution from January, 1995 to December, 2002. The statistical analysis was performed using the Stata 11.2 software for MacOS. Since the patients were non-randomly assigned to each treatment group, we used propensity score adjustment. **Results:** This series consists of 162 consecutive patients. The primary tumors were staged as T1 in 32 cases, T2 in 46 cases, T3 in 27 cases and T4a in 57 cases. Surgical treatment was employed in 110 patients (67%) while 52 patients (32%) were submitted to chemoradiation. Using the propensity score matching in a multi-varied analysis T, N and treatment modality were significant concerning the hazard ratio. **Discussion:** OC&OPSCC treatment is based on surgical resection followed or not by adjuvant treatment. In recent decades this paradigm has changed by the concept of organ preservation. In our series initial surgical treatment proved to be more effective than its non-surgical counterpart, except for patients with initial lesions. **Conclusion:** A small set of patients may derive benefit from non-operative treatment.

OP-31

SGP: 7940

Assessing the prevalence and impact of chronic sleep deprivation in patients with Obstructive Sleep Apnea Syndrome

Author(s): Marcos Marques Rodrigues, Ralph Silveira Dibbern

Keywords: obstructive, polysomnography, sleep apnea, sleep deprivation.

Introduction: In the Obstructive Sleep Apnea (OSA) syndrome, the main respiratory sleep disorder, snoring and daytime sleepiness are the main signs and symptoms of this population. In the Western lifestyle, it is not uncommon to find patients with OSA and who have chronic sleep deprivation (CSD). These patients have two aggravating factors that cause cognitive impairments concomitant with fatigue, sleepiness and mood swings. **Objectives:** To assess the prevalence and influence of chronic sleep deprivation in OSA patients. **Materials and Methods:** We prospectively evaluated patients whose chief complaint was snoring and their clinical history suggested sleep apnea, with symptoms such as daytime sleepiness, restless sleep and snoring. **Results:** We had 107 eligible patients, of whom 43 (40.2%) had CSD. Excessive daytime sleepiness and their HAI correlated significantly with CSD. **Discussion:** Patients with this disorder have two concomitant factors that cause low social and work performance. Patients with OSAS and CSD has more daytime sleepiness than OSAS patients without CSD. CSD contributes to OSA severity. This subgroup of patients are exposed to greater oxidative stress, thus having a higher risk of developing unfavorable outcomes. **Conclusion:** In evaluating patients with OSAS, it is always important to investigate the presence of CSD because it is a condition that increases oxidative stress and worsens the overall condition of OSA patients, increasing the likelihood of unfavorable outcomes and treatment failure.

OP-32

SGP: 7810

Cephalometric evaluation of the airway and the hyoid bone in children with atypical deglutition: correlations study

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Keywords: airway management, deglutition, nonparametric, statistics.

Objective: to evaluate the possible correlation between the radiographic position of the hyoid bone and the airway space in lateral radiographs of children with atypical deglutition. **Study design:** This was an observational study using cephalometric analysis on lateral telerradiography, the H-MP (hyoid to mandibular plane) and H-T (hyoid to tuber) distances with the PAS measure (airway space) in the two groups: the experimental group with atypical deglutition and the control group with normal deglutition. Both groups included subjects in mixed dentition stage. **Results:** the T-H variable had a statistically significant correlation with the PAS (0.0286) and the MP-H variable was significantly correlated with the PAS variable (0.0053). This positive correlation was significant only in the control group and not in the atypical swallowing group. **Conclusions:** our results show a positive correlation of the radiographic position of the hyoid bone and the airway space only in the normal swallowing group of patients. This fact leads us to believe that the tighter airway space in patients with atypical swallowing, possibly causes changes in tongue position, which leads to change in the position of the hyoid bone. Perhaps these changes may be responsible, in part, for face growth disorders.

OP-33

SGP: 8088

Evaluation of food consistency influence on swallowing endoscopy findings in stroke patients

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Keywords: deglutition disorders, endoscopy, stroke.

Stroke is the main cause of neurogenic oropharyngeal dysphagia in the adult population and the fiberoptic endoscopic evaluation of swallowing is important to determine its presence and severity. **Aim:** To evaluate if different food consistencies interfere with the findings of the endoscopic evaluation of swallowing in chronic stroke subjects. **Materials and Methods:** Clinical cross-sectional study. The fiberoptic endoscopic evaluation of swallowing was performed on 58 chronic stroke subjects, with mean age of 65.6 years, 24 females and 34 males. We offered pasty, thick liquid, and liquid food consistencies and evaluated parameters such as premature oral leakage, pharyngeal stasis, laryngeal penetration, and tracheal aspiration. **Results:** There were statistically significant differences in the following findings: premature oral leakage, laryngeal penetration, and tracheal aspiration when we offered different food consistencies. We found no aspiration when we offered the pasty food. Pharyngeal stasis did not present any significant differences in relation to food consistency. **Conclusion:** Different food consistencies interfere with the fiberoptic endoscopic evaluation of swallowing in chronic stroke subjects. The liquid consistency was the most altered, followed by thick liquid and pasty food.

OP-34

SGP: 8422

Comparative study: OSAHS x headache

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Keywords: headache disorders, migraine disorders, polysomnography.

Introduction: Headache and OSAHS are common in the general population and often can coexist in the same patient. Stress is recognized as one of the main factors in headache and sleep disorders. However, the general impression of this clinical practice is that headache and sleep are more closely related. **Objectives:** Check for possible relationship between OSAHS, diagnosed by polysomnography and headache symptoms. **Method:** prospective and observational study in which we assessed 52 patients, 27 men and 25 women. All had the diagnostic criteria of OSAHS-induced headache according to the International Classification of Headaches. They were evaluated by a Neurologist and sent to the otolaryngology ward of the Red Cross. All the patients were submitted to an interview, physical examination, nasal fibroscopy and polysomnography. The OSAHS diagnosis was based in a careful anamnesis and confirmed by polysomnography. OSAHS was

diagnosed following the American Sleep Disorders Association Criteria. **Results:** Only 2 of the 52 patients had hypopnea-apnea index (HAI) below 5 and with a saturation of 98%. 16 patients had HAI between 5 and 20 and 91% saturation (mild OSAHS). 31 had HAI between 20 and 50 with mean saturation of 90% (moderate OSAHS). Only 3 had HAI above 50, with a mean saturation of 82% (severe OSAHS). **Conclusion:** OSAHS and headache, when well characterized, are directly related. It is important to recognize the underlying pathology to which they are related, so that both can be treated.

OP-35

SGP: 8480

Is access to CPAP enough to facilitate compliance?

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Keywords: continuous positive airway pressure, sleep apnea syndrome, sleep medicine.

Obstructive sleep apnea syndrome (OSAS) is a complex change in the upper airways, resulting in a collapse of its walls during sleep. CPAP consists in providing a positive pressure to the upper airways preventing such collapse. **Objectives:** To evaluate the use and compliance concerning CPAP treatment in a group of patients from a city in the state of Sao Paulo. **Study Design:** observational and cross-sectional. **Materials and Methods:** We evaluated seventeen patients participating in a free health care program in which they received CPAP without costs. All the patients were submitted to the clinic's evaluation protocol and answered questionnaires - Epworth Sleep Questionnaire, SF-36 Quality of Life Questionnaire and they were asked about CPAP use. **Results:** Median age was 52 and the number of hours of CPAP use by night was 5 hours. **Conclusion:** We found several difficulties related to the use of the CPAP in the studied group, nevertheless further studies are needed to find a better model, closer to ideal, to obtain the best result in compliance with this device.

OP-36

SGP: 7882

Evaluating the degree of satisfaction of patients submitted to otoplasty

Author(s): Juliana Frozoni Lemes, Camila Atallah Pontes da Silva, Charisse Assuane de Araujo Patricio, Priscila Bogar Rapoport, Fernanda Adami Callegari, Gustavo Fernando Tognini Rodrigues, Luciano Szortyka Fiorin

Keywords: ear, patient satisfaction, plastic, surgery.

Prominent ears are the most frequent congenital abnormality of the external ear. Despite not causing any physiological damage, its cosmetic appearance can cause psychosocial damage, decreased quality of life and increase stress, resulting in low self esteem. Studies show the importance of surgical correction of protruding ears in improving emotional disorders and the self-esteem of people who have it. The assessment of patient satisfaction, and improved quality of life after corrective surgery becomes essential and is growing in modern medicine. Our objective was to evaluate the satisfaction rate of patients submitted to otoplasty at our service. We used a questionnaire developed by our team in all patients submitted to otoplasty from February 2010 to February 2011. Thirty-five patients answered it. Their mean age was 18.3 years. 85.7% of patients were submitted to the first surgical procedure, and 14.3% had been submitted to the second one. 94.2% said they were very satisfied, 5.8% were satisfied, and no patient reported being dissatisfied. We achieved a high level of aesthetic satisfaction postoperatively in our patients, contributing positively to their quality of life and self esteem.

OP-37

SGP: 8136

Crooked nose: outcomes evaluation in rhinoplasty

Author(s): Lisandra Megumi Arima, Leandro Castro Velasco, Romualdo Suzano Louzeiro Tiago

Keywords: outcome assessment (health care), patient satisfaction, rhinoplasty.

Introduction: A crooked nose is the result of deformities that might involve the bony nasal pyramid, the upper and lower lateral cartilages, and the nasal

septum, causing complaints of aesthetic and/or functional nature. **Purpose:** to evaluate how satisfied are those patients who underwent rhinoplasty to correct crooked nose, through the Rhinoplasty Outcomes Evaluation (ROE) questionnaire. Materials and methods: a longitudinal study with retrospective analysis of preoperative satisfaction and prospective analysis of postoperative satisfaction of patients who underwent rhinoplasty. The ROE questionnaire was applied twice in the same visit aiming at measuring patient satisfaction in both pre and postoperative times. Nineteen patients who underwent rhinoplasty answered the ROE. **Results:** for all patients who underwent rhinoplasty, the average preoperative satisfaction score was of 24.6 ± 11.3 , while the average postoperative score was of 76.1 ± 19.5 ($p < 0.0001$). Average differences between pre and postoperative satisfaction scores in patients younger than 30 years old were lower than those reported by patients ≥ 30 -years old ($p = 0.05$). Conclusion: From the questionnaire Rhinoplasty Outcomes Evaluation it is possible to show the impact of rhinoplasty in correcting a crooked nose, determining patient quality of life. Approximately 90% of patients submitted to rhinoplasty believed they had achieved a good or excellent postoperative result.

OP-38

SGP: 8353

Outcome assessment in reduction rhinoplasty

Author(s): Lisandra Megumi Arima, Leandro Castro Velasco, Romualdo Suzano Louzeiro Tiago

Keywords: outcome assessment (health care), patient satisfaction, rhinoplasty.

Introduction: Outcome after rhinoplasty has been the subject of little study from the patient's point of view. **Purpose:** to evaluate the satisfaction degree of patients who underwent reduction rhinoplasty using the Rhinoplasty Outcomes Evaluation (ROE) questionnaire. **Materials and methods:** a longitudinal study to assess patients concerning their preoperative and postoperative satisfaction. The sample was made up of 28 patients who underwent rhinoplasty and answered the ROE questionnaire. Three variables were obtained: satisfaction score assigned by the patient concerning his/her own image before surgery; satisfaction score assigned by the patient concerning his/her current appearance; and the difference of the average satisfaction scores between post- and preoperative. **Results:** the postoperative score was higher than the preoperative one for all patients. A difference of 48.3 ($p < 0.0001$) was observed between average scores of post- and preoperative. Preoperative figures pointed out that 100% of patients had < 50 in satisfaction score. Postoperative figures pointed out that 92.9% of patients changed their scores from < 50 range to the following levels: scores ranging from 50 to < 75 considered it as a good outcome (25% of patients); scores ≥ 75 meant it was an excellent outcome (67.9% of patients). **Conclusion:** the ROE questionnaire is a useful tool to show the satisfaction level of patients submitted to reduction rhinoplasty. About 92% of the patients who underwent reduction rhinoplasty considered the outcome good or excellent after surgery.

OP-39

SGP: 8418

Rhinoplasty: patient postoperative satisfaction at a Teaching Hospital

Author(s): Fernanda Lion Adami Callegari, Juliana Frozoni Lemes, Gustavo Fernando Tognini Rodrigues, Marco Antonio Baptista Ferraz, Camila Atallah Pontes da Silva, Charisse Assuane de Araujo Patricio, Priscila Bogar Rapoport

Keywords: esthetics, patient satisfaction, rhinoplasty.

Introduction: Rhinoplasty aims to make the nose aesthetically match the patient's face, but always preserving its respiratory and olfactory functions. Anatomical knowledge is essential in the preoperative diagnosis and during surgery, in order to obtain satisfactory results. The assessment of patient satisfaction and improvement in quality of life after corrective surgery, is growing in medicine. It becomes imperative to assess the social and psychological impacts on the lives of patients submitted to rhinoplasty. **Objective:** To evaluate the postoperative satisfaction of patients submitted to nose surgery in our department. **Methods:** We evaluated 32 patients submitted to rhinoplasty in our institution from January, 2010 to March, 2011. All patients answered anonymously the questionnaire prepared by our team during the

second postoperative month. **Results:** We evaluated 32 patients, 20 females (62.5%) and 12 males (37.5%). Their ages ranged between 15 and 57 years, mean 32 years (+ / - 10 years). The mean satisfaction score was 9.34, ranging between seven and ten. Among those who were not fully satisfied (less than ten), three (27.28%) reported dissatisfaction with the dorsum; four (36.37%) with the tip, two (18.19%) with side deviation, one (9.1%) had a functional complaint; and one (9.1%) did not know the reason being unhappy with the surgery outcome. **Conclusion:** in our service we had a higher satisfaction rate when compared to those found in the literature.

OP-40

SGP: 8525

Functional outcomes in rhinoplasty: Vertical Division of the Nose Dome in nasal tip surgery

Author(s): Michelle Lavinsky-Wolff, Carolina Rocha Barone, Luisi Rabioli, Humberto Lopes Camargo Junior, Márcio Severo Garcia, Carisi Anne Polanczyk, José Eduardo L. Dolci

Keywords: nasal cartilages, nasal obstruction, nose, rhinoplasty.

Introduction: Nasal tip (NT) surgery is one of the most complex procedures in the nose, and the vertical division of the domus (VDD) is a surgical alternative to improve definition, projection, rotation and asymmetries of the NT. Its impact in the quality of life (QL) associated to nasal obstruction (NO) was not assessed in any standardized protocol in the literature. **Objective:** To evaluate the impact of VDD in QL related to NO in patients with aesthetic and functional complaints. **Materials & Methods:** Patients with NO and aesthetics complaints related to NT underwent rhinoplasty with VDD. The scale of QL related to the NOSE (Nasal Obstructive Symptom Evaluation scale) and the 100mm visual analogue scale (VAS) assessment of NO and the degree of discomfort with NO were applied to patients preoperatively and 1, 2 and 3 months after surgery. **Results:** 20 patients, 60% women, with mean age of 28.2 ± 11.4 years. Results from the NOSE scale were $72(\pm 22)$, $34(\pm 22)$, $30(\pm 21)$, $40(\pm 24)$ respectively in the preoperative; 1, 2 and 3 months postoperatively ($p < 0.05$). The 100mm VAS showed a reduction in the degree of NO from 70mm preoperatively to 36mm, 22mm, 30mm respectively in 1, 2 and 3 months after surgery ($P < 0.05$). The discomfort with NO also decreased significantly (67mm preoperatively versus 35mm, 22mm, 37mm at 1, 2 and 3 months postoperatively, respectively; $p < 0.05$). **Conclusion:** the VDD technique to approach the NT was associated with significant improvements in the degree of NO and QL related to the NO in these patients.

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Fibrin glue - Comparison after production by Three Different Methods

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Keywords: fibrin, fibrin tissue adhesive, fibrinogen, rabbits, tissue transplantation.

Introduction: Fibrin glue can be obtained through various methods and it has applications in various fields of medicine. **Objectives:** To compare three different methods to produce fibrin glue. **Methods:** By means of experimental research, we led tests with 15 rabbits and 10 fragments of dura mater, in the laboratory, assessing three techniques to manufacture fibrin glue: plasma fibrinogen (group 1), cryoprecipitate (group 2) and chemic precipitation with ammonium sulfate (group 3), and assessing them considering: the quality of the clot produced, interference with the healing process, local toxicity, binding capacity of the grafts and the binding of two dura mater fragments. **Results:** All the methods produced a highly adhesive clot, no toxicity; and when we tested the tension strength to the chemo-precipitate (group 3) it required $39 \text{ g} / \text{cm}^2$ to pull the fragments apart, compared to $23 \text{ g} / \text{cm}^2$ in group 2 and $13 \text{ g} / \text{cm}^2$ in group 1. **Conclusion:** All methods showed good results in clot formation, absence of toxicity, but chemo-precipitate was the most effective method to produce fibrin glue, with the best results in the stress test.

Assessment of the noxious effects of inhaling cigarette smoke on the oral mucosa, pharynx and larynx of rats. Histological and immunohistochemistry study of p53 and Ki-67 immunoeexpression

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Keywords: ki-67 antigen, mouth mucosa, p53 tumor suppressor protein, rats.

Objective: To study the noxious effects of cigarette smoke exposure on the mucosal membranes of the tongue, pharynx and larynx of rats, by means of light microscopy and immunohistochemical study. **Materials and methods:** We had two study groups of 40 rats, 20 of which made up the control group and the other 20 were subjected to inhalation of cigarette smoke for 60 days (40 cigarettes / day). After this period, the animals were slaughtered and biopsies were performed in three sites for histological analysis. The parameters evaluated were: epithelial hyperplasia and dysplasia, hyperkeratosis, basal cell hyperplasia, increased number of vessels and infiltration of polymorphonuclear cells. Histomorphometric analysis was used to quantify the overall height of the epithelium and the keratin layer through image capture and image analysis in the J image version 4.5 software. For the immunohistochemistry study, the specimens were submitted to immunohistochemical reactions using primary anti Ki-67 and p53 antibodies. **Results:** Histological analysis showed mild epithelial changes, such as hyperplasia, dysplasia and hyperkeratosis, especially in biopsies of the tongue, being less evident in the more distant sites of exposure (pharynx and larynx). Histomorphometric analyses confirms these findings. Immunohistochemistry, the positivity of the Ki-67 protein shows a high nuclear proliferation activity in the face of the negative results of the p53 expression **Conclusion:** Rat exposure to cigarette smoke during 60 days brought about histological changes mainly in the tongue, stressing dysplasia, confirming the harmful effects of smoking on the airway mucosa.