



E-posters abstract book
TRANSVERSE

TRAN-An-01

Heterotopic callosal connections to auditory cortex in non-human primates

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Non-human primates have been consistently used as models to study anatomical and physiological networks in the brain. Connectivity studies have predominantly dealt with each hemisphere individually with the assumption that lateralization does not play a major role in the auditory function of non-human primates. In our study we present anatomic evidence of callosal connections, both homotopic and heterotopic to the auditory cortex. To achieve this, multiple retrograde tracers were injected in the superior temporal auditory cortex of two non-human primates. The tracers were tracked to study the percentage of fibres connecting the auditory cortex to ipsilateral areas and via the corpus callosum to the auditory (homotopic) and non-auditory (heterotopic) cortices in the contralateral hemisphere. Similar to previous studies we found a predominance of homotopic connections to the contralateral hemisphere. In addition, we have identified direct heterotopic non-auditory fibres not just from other sensory cortices but from the insula as well as the cingulate cortex. These non-auditory, relatively sparse connections to the contralateral hemisphere is of great interest to study alternative functions of the auditory cortex in multisensory integration. It is a relevant area of study in the context of sensory deprivation (e.g. chronic deafness and tinnitus). Finally, this route mediated by the corpus callosum is of relevance in cross modal plasticity of the auditory cortex. The non-human primate is therefore an appropriate model to study interventions and modulations concerning the connectivity of the auditory cortex.

Palatine nerve block in tonsillectomy pain management: a promising technique?

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Introduction: Tonsillectomy in adult patients is associated with known complications as haemorrhage, dehydration and pain. Patients with comorbidities, prior peritonsillar abscess, or an increased number of antibiotic prescriptions in the past year were significantly more likely to develop complications. Pain is a common cause of readmission in the hospital within 14 days of surgery; indeed, management of pain is still a great challenge for anaesthesiology and ENT doctors. The authors present six case reports of patients who underwent tonsillectomy performed under general anaesthesia (GA) and bilateral palatine nerve block (BPNB) with subsequent evaluation of pain control.

Materials and methods:

Patients included in this pilot study were purposed to tonsillectomy as a isolated surgical procedure (the main indication was repeated infection, without local complication) under GA. After induction, the anaesthesiologist performed BPNB, administering 0,5 to 1mL of levobupivacaine 0,25% with 25G, 16 mm needle. All patients received an initial dose of 3mcg/kg fentanyl, iv dexamethasone 8mg and iv paracetamol 1g. The tonsillectomy was performed by the classical dissection technique, with bilateral closure of the tonsillar fossa.

In the recovery room (RR), the patient was asked about visual analogue scale (VAS) pain and opioid analgesia was given if superior to 3. In the nursery, analgesia was made with IV paracetamol (1g, 8/8h) and opioid analgesia (SOS) if pain persistence. At 24h, the patients were routinely discharged and VAS was evaluated. For domiciliary analgesia, the patient was given PO paracetamol 1G 8/8h and opioid if severe pain (SOS); 1 week after surgery, in the consultation the VAS was evaluated and the need of SOS analgesia.

Results

	Age VAS(24h)	Sex	VAS(RR) Opioid Dose(Home)	Opioid dose(RR) VAS (7days)	Opioid dose(Nursery) Readmission ER
Case 1 0	27 F	1/10 0/10	0 0	0	0 0/10
Case 2 0	18 F	1/10 0	1/10	0 0	0 1/10
Case 3 0	18 M	1/10 1/10	0 0	0	0 1/10
Case 4 0	40 F	1/10 2/10	0 0	0	0 1/10
Case 5 0	19 M	4/10 0	Morphine 2mg 3/10	0	0 2/10
Case 6 0	21 M	2/10 1/10	0 0	Tramadol 100 mg	3/10

Discussion and conclusion

Tonsillectomy surgery in adults is normally associated with severe pain. These case reports shows that BPNB markedly lowers VAS, not only the immediate postoperative pain, but also maintaining lower VAS to one week after surgery. The authors suggest that the use of iv dexamethasone could extend LA effect and the block increases the long term pain threshold, so BPNB is a promising technique to pain control in tonsillectomy.

STUDY OF MIDDLE EAR OSSICLES IN ARCHAEOLOGICAL POPULATIONS: ANTHROPOMETRIC EVOLUTION AND EAR DISEASES. FROM ANTIQUITY TO THE MIDDLE AGES.

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Introduction: Paleopathologies and morphometric analysis of middle ear in modern humans ossicles have been rarely analyzed. Archaeological populations dating from Antiquity to Middle Ages were discovered in Franche-Comté region from France since 2010. Main objective of our study was to analyze anthropometric evolution of ear ossicular chain in these populations compared with a reference modern population. The secondary objective was to find sequelae of otologic pathology.

Materials and methods: Monocentric study finding 302 temporal bones and 348 ear ossicles, from three ancient burial populations and a modern one. After developing an innovative non-destructive sampling method, a reproducible and comparative analysis of anthropometric measurements was performed (16, 15 and 13 measurements for malleus, incus and the stapes). A systematic research for ear diseases stigmata in temporal bone or ossicles from archaeological data was performed.

Results: Anthropometric measurements reveal a statistically significant change in ossicles size. Lengths of the long process and the short crus of incus increased from Antiquity to the Early Middle Ages (5.95 and 5.04mm vs. 6.59 and 5.31mm, $p < 0.05$), and then decreased to the present day (6.52 and 5.29mm, $p < 0.05$). Length of the malleus body follows same evolution until the Middle Ages (5.347mm vs 5.726, $p < 0.05$). Stapes seems to have decreased in size from the Middle Ages to the present ($p = 0.12$). Evolution of ear ossicle size chain seems not to be correlated to evolutionary man stature data.

We demonstrate the presence of chronic middle ear diseases (3%) in all archaeological populations. No external ear disease was found. Eight cases of chronic otitis media were found (temporal bone lysis, bone erosion). Four cases of ossicular lysis may be due to cholesteatoma. These results are similar from other studies. A unique case of attic fixation of the incus was discovered in an Ancient Romans population.

Conclusion: We have defined a reproducible study protocol, for further studies.

Anthropometric evolution of ear ossicle has varied over the centuries, maybe independently of stature of man over the last two millennia. Otologic chronic diseases every day treated over the world, already existed in Antiquity and in the Middle Ages. This was suggested by reading first ear disease description by anatomists of those centuries. Our study confirms middle ear disease presence in archeological population.

Unique features of the enteric neurons of the cervical esophagus demonstrated by immunohistochemistry in donated elderly cadavers.

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Purpose of this study: To describe and discuss the normal anatomy and function of enteric neurons in the esophagus of aged individuals.

Materials and method used: We examined ganglion cells in esophagus specimens obtained from 15 elderly cadavers without any macroscopic pathology in the mediastinum and abdomen. Neuronal nitric oxide synthase and vasoactive intestinal polypeptide were used as parasympathetic nerve markers, and tyrosine hydroxylase as a sympathetic nerve marker.

Results: The thoracic and abdominal esophagus contained a well-developed myenteric nerve plexus in the intermuscular layer. The cervical esophagus usually contained no ganglion cells. The number of parasympathetic ganglion cells was maximal in the upper or middle thoracic esophagus (18-23 cells per section), whereas sympathetic cells were considerably less numerous at any sites (1-3 cells).

Conclusion: This study describes the normal anatomy and function of enteric neurons in the esophagus of aged individuals in human. In comparison with previous data, the esophagus carried much fewer ganglion cells than the intestine and colon; sympathetic cells were particularly less numerous. Esophageal smooth muscle exhibits a unique mode of peristalsis characterized by a rebound contraction with a long latency after stimulation. This type of peristalsis appears to be regulated by inhibitory, nNOS-positive nerves with a sparse distribution, which seems to account for the long-span peristalsis unique to the esophagus. The sparsity of ganglion cells in the cervical esophagus suggests that enteric neuron-integrated peristalsis, like that in the intestine and colon, is unlikely. Surgical treatment of the esophagus is likely to change or impair these unique features.

Comparison of traditional face-to-face teaching with synchronous e-learning in otolaryngology emergencies teaching to medical undergraduates: a randomised controlled trial.

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Purpose of the study

Undergraduate otolaryngology teaching in the UK is generally limited primarily due to curriculum time constraints with traditional face-to-face (FtF) teaching being restrained by the limitations of time and location. Advances in network technology have opened up new doors for the delivery of teaching in the form of online learning. This study compares a traditional instructor-led lecture with synchronous e-learning (SeL) using otolaryngological emergencies teaching as an educational intervention.

Materials and methods used

A randomised controlled trial was designed involving two groups of medical students attending an otolaryngology emergencies management lecture: one present FtF (n = 25) and the other viewing the streamed lecture online (n = 25). The primary outcome measure was improvement between pre-and post-lecture test scores. Secondary outcomes comprised the students' ratings of the lecture on a Likert-type scale.

Results

Students in both groups had improved test scores following the lecture ($p < 0.001$ for both groups) and there was no difference in magnitude of improvement in test scores between the two groups ($p = 0.168$). There was no difference in student ratings between the two groups for the usefulness of the lecture ($p = 0.484$), interactivity ($p = 0.834$) and meeting educational needs ($p = 0.968$). The FtF group, however, was more satisfied overall ($p = 0.034$).

Conclusion

This study demonstrates that SeL may be as effective as FtF teaching in improving students' knowledge on the management of otolaryngological emergencies, and that it is generally positively perceived by medical undergraduates. This highlights the potential utility of e-learning technology in undergraduate otolaryngology training.

Exploring the educational value of a novel ENT iBook: a qualitative study.

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Purpose of the study

Medical undergraduate exposure to the specialty of otolaryngology is limited. It may be consolidated by the use of an iBook, which is a relatively novel form of an interactive multimedia e-book, as a self-study tool. This study evaluates the potential educational value of an undergraduate otolaryngology iBook designed for medical students.

Materials and methods used

A triangulated multiple-category focus group study with a total of six focus group discussions was undertaken. This comprised three medical student focus groups consisting of a total of eighteen students, two junior doctors' in ENT focus groups consisting of a total of ten trainees, and a focus group of four educational media experts. The focus group discussions were undertaken during May 2015 to August 2016, and involved going through a set questioning route with the focus differing for each information source; for medical students being on their perceptions towards the iBook to aid their ENT learning, for doctors on the clinical relevance of the iBook and for the educational media experts on the design of the iBook as a form of educational media. The focus group transcripts were imported to the qualitative data analysis software NVivo (QSR International, UK).

Results

The iBook was found to have a clear and consistent presentation, focused and user-friendly style, with reasonable interactivity and a good range of well-integrated media elements. It was overall perceived to be a potentially valuable educational resource by the medical students, media experts and junior doctors. The recommendations from the focus groups were to incorporate an assessment component into the iBook, which would enhance its interactivity, and to include videos of clinical examinations, so that the iBook achieves its full interactive and multimedia potential.

Conclusion

This study is useful in evaluating the potential educational value of a novel undergraduate ENT educational tool. Furthermore, by undertaking the recommendations that have emerged from this study, it is hoped that the ENT iBook will be improved in its educational value for medical students. Further evaluative research will need to be undertaken in the future to fully assess the impact of such educational interventions and their effects on learning behaviour and performance.

Necrotizing Sialometaplasia of the Palate Mimics Intra-oral Malignancy

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Purpose of the study

Necrotizing sialometaplasia is an uncommon benign lesion and locally destructive, inflammatory necrotizing process that can involve minor and major salivary glands. Gland tissue ischaemia has been proposed as the aetiology. It is predominantly found in the posterior hard palatal mucosa, with two thirds of the cases being unilateral lesions.

Materials and methods used

A 48-year-old man looked for help with a 10 days history of bilateral painful ulcerative lesions at the junction of the hard and soft palate, adjacent to the midline. In addition, the patient was a heavy smoker and poorly controlled DM patient. Intra-oral examination revealed two crater-like ulcers with irregular, raised, and soft borders, erythematous margins and necrotic center. CT scan exhibits mottled gas beneath hard plate. An incisional biopsy and local debridement of the lesions was performed.

Results

Histopathological findings revealed areas of pseudoepithelomatous hyperplasia and lobular necrosis of the architecture of salivary glands. The presence of squamous metaplasia of residual acinar and ductal elements was found. Above features confirmed the diagnosis of necrotizing sialometaplasia. The ulcers spontaneously healed within 5 weeks under antibiotics treatment.

Conclusions

The clinical and histological similarity between this entity and a malignant lesion implies a risk of unnecessary treatment. In this case illustrates the need for an incisional biopsy to be analyzed by an experienced pathologist to establish a correct diagnosis because failure in differentiating this lesion from a malignant process may culminate in unnecessary mutilating approach

Use of Smart-Endoscopy in Otolaryngology Emergency Rooms: Using the 21st Century Technology to Our Benefit

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Purpose of the study : Accurate diagnosis and management of patients by young physicians has become an issue of crucial importance, in an era when antibiotic resistance has become prevalent, economic concerns have become an integral part of medicine and litigation has become abundant. Diagnosis of most otolaryngological diseases are based on visualization, making a more experienced observer a more capable diagnostician:enhancing accuracy of diagnosis, treating accurately according to the patient's pathology and reducing morbidity and mortality rates as well as health care expenditure. Our aim was to review the current status of smart-endoscopy as a 21st century technology, which permits both young and less experienced surgeons the benefit of immediate consultation with colleagues.

Materials and Methods: A web-based search was performed to document the variety of applications of smart-endoscopy in the domain of otorhinolaryngology. The search was conducted using the following key words: smart-endoscopy, mobile video-laryngoscopy, mobile laryngoscopy, applications for mobile phones using endoscopy.

Results: Several thousands (n=24700) sites were searched using the above search criteria. These sites were reviewed and divided into several categories: applications for mobile phone use and endoscopy, mobile phone adapters for endoscopic examination and others.

Results: There exists a multitude of apps and adapters permitting the use of smart-endoscopy to the benefit of the training ENT surgeon as well as for the senior surgeon in need of consultation. These apps and devices should be presented to both young and more experienced surgeons, allowing them both the benefit of experience of others.

A Systematic Review of Resident Surgical Competency in ENT

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Purpose of the study: The format of residency is changing towards acquisition of specific competencies, which will require new methods of assessing surgical skills. The primary goal of this systematic review is the identification of methods used to assess surgical competency in ORL-HNS residents. Secondary goals include assessment of the reliability and validity of these methods, as well as the identification of specific procedures or subspecialties in ORL-HNS for which the development of additional surgical evaluation tools could be required.

Materials and methods: The PRISMA method of systematic reviewing was used to review digital and paper databases. Titles and abstracts were reviewed by two independent reviewers and retained articles were fully analysed in order to identify the types of evaluation tools used, dates and locations of publication, type of publication, general conclusions as well as the subspecialty of ORL-HNS involved. Reliability and validity of the instruments were also assessed and scored according to validated criteria.

Results: Five different evaluation tools for surgical competency assessment have been developed. The evaluation tools described were the combined global rating scales (GRS) and task-specific checklists (TSC), procedure-based assessments, simulation of animal models, automated motion analysis, use of virtual reality technology and written practical examination. Overall reliability of the tools was moderate to high while validity was generally high. Subspecialties of ORL-HNS with research in the field were facial plastics, general otolaryngology, laryngology, otology, pediatrics and rhinology.

Conclusion: Of the five types of evaluation tools used to assess the surgical skills of ORL-HNS residents, the combined global rating scale (GRS) and task-specific checklist (TSC) evaluation tool is the most used and validated. Reliability and validity of the different tools range from moderate to high. Specific procedures for which instruments have been developed are multiple and diversified, but further research could be required in order to include oncologic procedures in the future.

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Assessing the impact of a longitudinal collaboration on a developing residency program in low resource setting

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The development of residency programs in a low resource setting is a complex challenge. International collaborations can play a role, however, the impact of this supplementary form of training is rarely assessed. This paper objectively reviews the impact of a longitudinal collaboration and presents emerging themes that underlay these results.

Methods

There is a longstanding collaboration between Mbarara University of Science and Technology, Uganda, and three North American universities. A retrospective review of the educational programs delivered jointly by the institutions was done. Learning was assessed using pre and post intervention OSATS scores, a validated instrument. Skills taught over three years included: flexible and rigid nasal endoscopy, Z-plasty, CT scan interpretation and cranial nerve examination. Transfer of endoscopy and suturing skills to clinical practice was assessed by examining the number of procedures performed before and after the intervention. Qualitative questionnaire data was collected to further understand the impact of these interventions. Themes were coded by a blinded reader and explored further with a follow up questionnaire.

Results

Data from all residents (three) and one faculty were collected. All residents showed an increase in their knowledge and skills OSAT scores after the training. The improvement seen was statistically significant for flexible and rigid endoscopy ($p=0.003$ and 0.02 respectively), cranial nerve examination ($p=0.005$) and Z-plasty ($p=0.008$) but not for CT scan interpretation ($p=0.11$). The highest mean increase in OSAT scores were seen in flexible endoscopy from 30% to 70%, with skill retention seen one year later. All residents increased the number of endoscopies performed after training, from an average of 5 to 91. Three major themes emerged from the questionnaires. Resource constraints: resources such as time, staff expertise, and equipment influenced all aspects of educational delivery. Context specificity: interventions were not always applicable to the local context but valued because they helped residents develop professional identity as an Otolaryngologist. In-time assessments: the introduction of formal assessments motivated students and were especially valued from visiting staff that were considered experts.

Conclusion

Longitudinal international collaborations are worthwhile in emerging residency programs. Residents valued the relief of resource constraints, development of professional identity, and formalizing education delivery through assessments. It is important to continue to evaluate and modify these initiatives to optimize education delivery.

Coumarinic overdose: a rare presentation

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Introduction: Acenocumarol and other vitamin K antagonists (ex: warfarin) remain the most used anticoagulants in a variety of clinical situations, despite the appearing of newer anticoagulants. In spite of having clear advantages (low cost, large clinical experience, efficacy and antidote availability), there are some adverse effects. The most important of these is hemorrhage which is influenced by many factors, such as illness, changes in diet and pharmacological interactions.

Methods: The authors present a clinical case of coumarinic overdose (a common clinical condition) with a rare presentation.

Results: In the following case, an eighty-eight years old male with a history of atrial fibrillation, presents himself to the emergency department complaining of oral hemorrhage. There was no history of trauma, diet change, coumarinic dosing adjustment in the past 3 months, similar previous events nor mental illness. It was denied the use of antiplatelet drugs, other anticoagulant despite acenocumarol, antibiotics, non-steroid anti-inflammatories or any drug capable of changing acenocumarol plasmatic value. The patient reported melena in the previous night. The oral examination made clear a black tongue discoloration due to hematic residue and two hematomas, one alveolar and other on the inferior tongue surface. One of the hematomas was bleeding actively. There was no other identifiable source of bleeding. The laboratory testing revealed anemia and unclottable blood (INR>17). Local hemostasis was achieved by compression and Spongostan® application. After discussion with the Hematologist, 5mg of intravenous vitamin K were administered. The subject remained under close observation till the INR came to desired values.

Conclusion: Acenocumarol and the other vitamin K antagonists are widely used medications for many clinical conditions. Despite clear advantages, some adverse effects are noted. The most common, hemorrhage, may be identified from several origins. In the previous clinical case, the authors discuss an uncommon presentation of coumarinic intoxication and its management.

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Developing Sustainable and Equitable International Collaboration

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Purpose:

International collaboration has incredible potential to bring a wealth of experience, complementary competencies, and enthusiasm to bear on problems of shared concern. However, developing a sustainable and equitable collaboration that has a measurable impact is fraught with logistical, ethical, and financial pitfalls. We describe these challenges, our systematic approach to navigating them over the last three years, and our success in the development of a collaboration between the University of KwaZulu-Natal and Yale University.

Methods and Materials:

We initially engaged in a needs assessment to identify areas where collaboration might be of benefit and then developed pilot projects and exchange of personnel as a proof of concept and means of identifying and reinforcing aspects that were truly collaborative and equitable and minimizing those that were not or did not fulfill the needs identified by each party. We are currently in the process of expanding and enriching this partnership.

Results:

We determined that the main need of the Section of Otolaryngology at Yale was the development of a global health experience that supplemented trainees understanding of disease presentation not commonly encountered in the US and provided training in the provision of excellent health care in a resource limited setting. We additionally found that Yale faculty and residents were eager to engage in research projects and clinical projects abroad, and that this collaboration provided a platform to allow for this to occur.

We determined that the chief need of the Department of Otolaryngology at the University of KwaZulu-Natal was to enrich research opportunities for its trainees. Moreover, despite excellent training, opportunities for subspecialty fellowship is currently limited in South Africa and an ongoing dialogue with fellowship trained surgeons from Yale has been a welcome benefit.

To meet these needs, we have established a bilateral exchange program and a biannual educational and research symposium to share ideas and training. We have numerous completed and ongoing collaborative research projects, which are expected to generate 9 publications in the next year. Clinically, we are embarking on a province wide head and neck cancer screening and education program as a collaborative effort.

Conclusions:

In a relatively short time, we have been able to bring together significant resources in a mutually beneficial way, setting the stage for a sustainable partnership. The success of this depends largely on remaining aware and dedicated to a equitable and bilateral relationship that supports the needs of each party.

Dissection of the vertebral artery as a rare differential diagnosis of unilateral pain of the neck

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Purpose: Unilateral neck pain is a common unspecific symptom, which occurs during various ENT-specific disorders. We report about a rare severe differential diagnosis of arterial dissection in a 67-year old male patient and describe our diagnostic and therapeutic approach.

Case report: The patient consulted our ENT-University hospital with an acute severe right-sided pain of the neck without previous trauma. The ENT status, endoscopy of the pharynx and sonography of the neck were regular. The patient showed no neurological symptoms and regular neck movement. The CT-angio-scan, showed an obliterated right vertebral artery (VA). The MR-angiography confirmed the acute dissection of VA with an extensive arterial occlusion. Because of radiologically evident cerebral micro-bleeds and amyloid angiopathy, as pre-existing arterial hypertension, an interdisciplinary team made a decision against the lysis therapy and long-term anticoagulation. Close neurological monitoring and adjustment of hypertension therapy was recommended.

Discussion: The dissection of the VA is rare and is associated with an 80% higher risk of cerebral ischemia. Trauma, arterial hypertension and migraine are the major risk factors. MR-angiography poses the diagnostic tool of the first choice, if arterial dissection is suspected. Acute lysis therapy and anticoagulation, followed by a long-term anti-platelet drug therapy are recommended to prevent the ischemia. However, the pre-existing risk factors for intracerebral bleeding should be considered.

Conclusion: In patients with an acute unilateral pain of the neck with pre-existing risk factors, arterial dissection should be considered and excluded.

ENT Emergencies Course for Junior Doctors

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Purpose of study: Junior doctors new to ENT and those cross covering ENT found managing ENT emergencies difficult. This issue was taken up at the medical education committee where it was agreed to design and arrange an ENT Emergencies Course to address this issue.

Materials and Methods used: ENT Emergencies Course designed focusing on four important scenarios i.e.: Flexible nasendoscopy, epistaxis, ENT examinations and management of peritonsillar abscess and tonsillitis. Candidates were asked to fill a survey to score their confidence in management of the above scenarios from a scale of 1-5 before the course and another survey after the course.

Results: A total of 12 trainee junior doctors attended the course. The average overall confidence with ENT emergencies pre-course was scored at 2/5. It was found that the trainees had the lowest confidence with the use of Flexible Nasendoscope (average 0.41/5) and the highest confidence was with the management of tonsillitis (average 3.58/5). Only 8 of the 12 participants had dealt with epistaxis in the past. The average overall confidence with ENT emergencies post-course was scored at 4/5, a 100% improvement. The highest increase in confidence was with the use of flexible nasendoscope with an average score of 3.41 (pre-course average score 0.41). 92% of the participants (11 out of 12) found the course would be beneficial to their daily practice.

Conclusion: Average overall confidence with ENT emergencies post-course was scored at 4/5 (pre-course 2/5), a 100% improvement. 92% of participants (11 of 12) thought this course would highly benefit their daily practice during their ENT rotation. This course should be introduced as induction for junior doctors starting their rotation in the ENT department.

Evaluation of Academic Productivity of Top One Hundred World-wide Physicians on Otorhinolaryngology Head and Neck Surgery Field by Using H-index as a Bibliometrics Ranking System.

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Objective: To investigate the top one hundred physicians on Otorhinolaryngology Head and Neck Surgery (ORLHNS) all over the world in all subspecialties of this main scientific medical branch by ranking them using Google Scholar h-index.

Materials and Methods: Although there are various bibliometrics ranking systems to show academic quantity and quality of the published articles of a scientist in all fields with advantages and disadvantages of each, h-index is the most popular and accepted bibliometrics in the scientific world. Therefore, we used this system to evaluate top one hundred World-wide physicians on ORLHNS field. For this purpose, we used Google Scholar by using all key words to involve all subspecialties and specific fields of otorhinolaryngology head and neck surgery with an aim of reaching to all of the physicians as much as possible. The institutions they worked is verified by double checking with different persons in this study on the web sites. The web of institutions and e-mail addresses in the most recent studies were considered to verify the institution of that working author.

Results: The average h-index of all enrolled one hundred physicians in the study was 31.71 with a range of 163 to 18. One subject had a h-index greater than 100 (163). The most common h-indexes were 20 for 9 and 22 for 8 physicians. Nearly two third of scientist had a h-index of lower than 32.

Conclusion: H index is most consistently calculated bibliometrics in Medicine. It seems to be a strong statistic for comparing academic output. Current study details the academic impact of World-wide physicians on ORLHNS according to Goggle Scholar h-index.

Improving the ward-based care of patients post-thyroidectomy: A multidisciplinary audit

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Introduction

Nursing staff play a crucial role in managing surgical patients in the post-operative period. However, with an increasing proportion of subspecialty wards facing closure due to financial pressures within the NHS, the knowledge base and expertise of ward-based nursing staff of surgical subspecialties is becoming limited.

Patients undergoing thyroidectomy are one cohort of ENT patients who require specific close observation as complications can be potentially life-threatening, and therefore require early, prompt recognition and intervention. It is therefore important that ward-based clinical staff are competent in managing these patients.

Methods

A prospective, questionnaire-based audit evaluating understanding of peri-operative management issues for thyroidectomy patients was conducted. This addressed surgical complications following thyroidectomy, investigations required in the post-operative period, signs and symptoms of hypocalcaemia. Following the initial data collection, the intervention of a 'training episode' was made, aiming to highlight the initial results and improve the knowledge base of nursing staff. A re-audit was carried out.

Results

Fifteen nurses were recruited in total, and each participated in both audit cycles. The mean overall score for each nurse in Cycle 1 was 6.7 and to the mean overall score in Cycle 2 was 13.6, with a statistically significant improvement being demonstrated ($p<0.01$). The mean scores improved for each individual question as well.

Conclusion

Targeted interventions can improve the knowledge base of nursing staff. Overall, the nurses who participated also stated that they felt more confident in managing thyroidectomy patients in the post-operative period. This study highlights the need for doctors and nurses to work closely together in order to ensure that high standards of care are maintained.

Is resident training during surgery interfering on the surgical outcome?

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Introduction: there is a growing debate as to whether residents should or should not participate in surgical procedures. Arguments claim that more time of consumed, that complications (minor, at least) are more frequent, and that total costs are increased. Our Hospital at Cuf Descobertas, Lisbon, recently (two years ago) introduced a resident training program, and residents regularly participate in surgical procedures. Patients are always informed and a written informed consent is always obtained to that specific end. We set then a retrospective controlled trial, using medical records, to examine if resident training during surgery interferes in the surgical outcome.

Methods: Data from medical records was retrieved from the year 2015 (when we had a first- and a second-year residents) from patients operated on adenoid and tonsil surgery, septal and turbinate surgery, and myringotomy with ventilation surgery (surgeries that residents regularly participated on). Care was taken to select only cases operated by teams in which residents regularly participated. Control cases were cases operated by the same teams were residents did not participate (because of absence or because patients did not authorize) within the same period. Patients with local or systemic diagnosis carrying increased risk of complications were excluded. A total of 167 cases were enrolled; residents participated on 86 of those, doing at least a very significant part of the surgical procedure. Items collected were: type of surgery; surgical times; minor complications; major complications; total cost for the patient; surgical success. SPSS™ 23 was used to analyse data.

Results: complications were rare in both arms of the study, in accordance with published series, with only one major complication (pain from tonsillectomy requiring admission on a case with resident participation). There were 10 minor complications (infection, haemorrhage or vomiting). Qui square test on association of minor complications with residents' participation revealed no association ($p=0,52$). We also did not find any statistical difference as to the other analysed items.

Conclusion: In our population, this year, resident training during surgery did not interfere on the surgical outcome. This is a sensitive matter, and we believe that resident training must include surgical training in living patients after model and cadaver dissection.

Objective assessment of surgeon-performed ultrasonography skills

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Purpose of the study

The development of portable high-resolution ultrasound machines has increased the use of office-based ultrasonography by otolaryngologists. However, ultrasonography is a highly operator dependent image modality and the aim of this study is to explore the validity evidence of an objective assessment tool of head and neck ultrasonography skills.

Methods

Six otolaryngologist and eleven interns were included in an experimental study where they performed a focused ultrasonography exam of eight patients with various neck lesions. Two blinded raters assessed ultrasonography performance using the Objective Structured Assessment of Ultrasound Skills (OSAUS) scale and the diagnostic accuracy was calculated based on the US reports. Inter-rater and inter-case reliability were explored with intra-class correlation coefficient (ICC) and the relation between the OSAUS score and the diagnostic accuracy was explored with a Spearman ρ correlation coefficient. A Receiver Operator Characteristic curve analysis was used to establish the optimal OSAUS pass/fail score to define the competence-level in office-based ultrasonography of the head and neck.

Results

The OSAUS scale demonstrated good inter-case (0.85) and inter-rater reliability (0.76) and a significant discrimination between experience groups ($p < 0.001$). A strong correlation between the OSAUS score and the diagnostic accuracy was found (Spearman's ρ , 0.85; $p < 0.001$) and an optimal OSAUS cut score was established to define competency in office-based ultrasonography.

Conclusions

Strong validity evidence supported the use of the OSAUS scale to measure head and neck ultrasonography skills. The established OSAUS pass/fail score may be integrated as part of the certification demands to ensure the diagnostic quality of office-based head and neck ultrasonography.

Training Ear Nose and Throat doctors' satisfaction about their hospital training

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Background

We aimed to evaluate the satisfaction of training doctors regarding their hospital training in ENT department.

Materials and Methods

An anonymous questionnaire was sent via email to all training ENT doctors in 5 university hospital in Morocco (Rabat, Casablanca, Fez, Marrakech and Oujda). This questionnaire administrated in self-evaluation was composed of 28 items divided into 7 dimensions (Wellness at work ; colleagues Attitude ; Achievement of Objectives ; personal, training, and logistics satisfaction).

The collection and analysis of data were performed using SPSS (version 10). Variables were expressed as percentages, mean \pm standard deviation or interquartile-median.

Results

Thirty two training ENT doctors who have retuned the questionnaire fulfilled (mean age of 29.6 \pm 3.5 years , 17 F/15M, 17 single and 15 married doctors) were included in our study.

85% of training doctors were satisfied with their colleagues's attitude, by against 55% were not satisfied with the attitude of their teachers. 66% of physicians were satisfied with their practical training, while 67% were not satisfied with their academic training (staff and over). 63% of physicians judged that teaching tools were adapted to their training. satisfaction about consultation conditions and surgical equipment varied between 50 and 55% of cases.

Discussion

The training of young doctors involves the engagement of the learner, the teacher and especially the technical platform.

We propose the involvement of the authorities for the improvement of the technical platform and a regular assessment of the practical and theoretical acquisitions.

Keywords

Training doctors, satisfaction, ENT department.

Affiliation

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TREND TOPICS IN THE ARGENTINE CONGRESSES OF OTORHINOLARYNGOLOGY

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Purpose of Study: The Argentine Federation of Otorhinolaryngology Societies (FASO - Federación Argentina de Sociedades de Otorrinolaringología) and the Argentine Association of Otorhinolaryngology and Pediatric Speech Therapy (AAOFP - Asociación Argentina de Otorrinolaringología y Fonoaudiología Pediátrica) organize, on average, three annual congresses of the medical specialty in various cities of our country. The conferences are divided into modules corresponding to the topics: Ear, Nose and Pharynx Larynx. There is also a module corresponding to miscellaneous, in which are exposed topics not directly related to the previous ones

MATERIALS AND METHODS USED : This is a Descriptive, Observational, Transverse and Retrospective Study. In an analysis of more than 2000 conferences held during 30 congresses over 10 years, evaluate what are the trend topics in the various modules of the Congresses. **RESULTS :** In the nose module, the three trend topics were rhinoseptoplasty, functional endoscopic sinus surgery and rhinosinusitis. In the ear module, the three trend topics were cochlear implants, acute otitis media, and implantable otologic devices. In the pharynx laryngeal module, the three topics were laryngeal cancer, adeno tonsillectomy and dysphagia and dysphonia. **CONCLUSION:** The most frequently exposed topics in the modules were implantable hearing devices (ear), rhinoseptoplasty (nose) and laryngeal cancer (pharynx laryngeal).

Near-misses in ENT-HNS

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Purpose: Near miss is defined as an act of commission or omission that could have harmed the patient or health care personnel but did not. Near-miss episodes are often serendipitous, frequently recalled but rarely recorded in our specialty. Recent reports have recommended that they should be documented formally by health service administration as near-incidents in their own right because they are proven early warning monitors of impending patient safety issues and adverse events.

This paper is a personal commentary on the nature of near-misses in contemporary practice and how we currently view them in our specialty. Our traditional approach ranges from informal anecdotes through formal teaching and presentation to publication as either case reports or series. A literature review is performed and a snapshot of the senior author's experience in near misses in his career is presented.

The address reviews the universal advice that recording near-misses is an opportunity to progress patient safety but cannot be successful without senior clinicians' enthusiasm and endeavor by identifying and collating them at source. The barriers to reporting are discussed and the already overwhelmed data evaluation system is noted. More than 150 Incident forms regarding real or near-events in risk management submitted by this senior consultant over a 1-year previously remain un-actioned by local services.

Conclusion: The hospital incident report system is not-fit-for purpose and most likely unable to cope with a new section of reporting. Experienced surgeons are often the only ones to realise the occurrence or implications of a near-miss in clinical practice. It may be more appropriate for the speciality itself nationally to take responsibility in managing an anonymised near-miss system with regular presentation and publication of data.

We can obtain informed consent for resident's doing surgery – evidence form randomized controlled study.

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Introduction: there is a growing debate as to whether surgeons should obtain informed consent for residents' participation in surgery. Most surgeons consider that, even though residents must learn and therefore participate in surgeries, informing patients might drive them away from their practice. On the other hand, there's growing concern on legal grounds as to the need to inform about possible consequences of residents' participation, like longer surgery time.

To consider the actual patients' mind on the subject will enlighten the discussion, and so we queried a pool of patients in a private practice hospital about their convictions on how and when we should allow residents to participate in surgeries.

Methods: A query of 18 multi-choice questions was applied to 72 patients on a private practice hospital in Lisbon, including questions on if we should allow residents to participate on surgeries, how late during residency, which steps before participating, and which kind of supervision would suffice. Also, we asked if patients would tolerate extra risk or cost to that end, and if they had any special concern to it. There were also open questions as to concerns and suggestions. The 72 participants were also stratified by age and gender and randomized by clusters to two cohorts, exposing one cohort to a prior informative text on what a resident is and why he needs to participate on surgery and how the patient and society in general may benefit from this participation; and a control cohort with the usual informed consent.

Results: A large majority of 93.1% of participants agreed that residents may participate in surgeries, and that they must operate under some form of supervision by a trained surgeon (also 93.1%). 71.8% think that this surgical learning should be done gradually. 84.7% agree that residents may participate on surgeries on any patient, including the participant himself, if ever needed. 76.4% would accept a higher risk, and 87.5% would accept a higher cost. All except one agreed that society in general benefits from residents' participation in surgeries.

We found no difference between exposing or not to a prior informing pamphlet.

Conclusion: In our population, an important majority of patients agrees that residents' participation is both needed and positive, even if it brings extra risk or cost. This reinforces our personal experience that we can ask for patients' consent for residents' participation.

AERONAUTICAL EXPERTISE OF ORL CANCERS IN AIRCREW

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1. Objet de la présentation:

Les cancers ORL sont réputés être invalidants pour les fonctions d'élocution et de déglutition du fait de leur topographie lésionnelle et leurs traitements délabrants.

Objectif: Evaluer les répercussions des cancers de la sphère ORL sur la validité de l'aptitude en cours de carrière chez le personnel navigant et discuter les critères de dérogations.

2. Matériels et méthodes:

Etude rétrospective sur une période de 10 ans, nous rapportons trois observations de cancers ORL chez des navigants actifs suivis périodiquement au Centre National d'Expertise Médicale du Personnel Navigant.

3. Résultats:

Il s'agit de deux pilotes, âgé de 37 ans et 46 ans qui, au cours d'une visite révisionnelle, le premier malade a rapporté un ronflement depuis 6 mois. L'examen ORL retrouve une masse occupant le nasopharynx, s'étendant vers l'oropharynx, sans adénopathies palpables et dont la biopsie a confirmé un carcinome indifférencié du nasopharynx. Classé T3N0M0.

Le deuxième cas a présenté une adénopathie cervicale postérieure droite chronique, l'examen du cavum a révélé un processus tumorale de la paroi latérale droite dont la biopsie était en faveur d'un carcinome de type UCNT, classé T3N1M0. Les deux patients ont bénéficié d'une chimio-radiothérapie avec une bonne évolution. La durée d'inaptitude totale temporaire a été de 12 mois. Les deux malades ont été déclaré définitivement inaptes de leurs fonctions de navigant en raison des séquelles fonctionnelles de la radiothérapie.

Le troisième patient est un Steward âgé de 56 ans, hypertendu chez qui on a découvert, de façon fortuite lors d'une échographie cervicale, un nodule thyroïdien basilobaire droit, sur une glande de volume normal. On a trouvé des atypies cytonucléaires à la cytoponction du nodule. Le bilan hormonal était normal ; le patient a bénéficié d'une lobo-isthmectomie droite. L'examen histologique a conclu à un microcarcinome papillaire Le patient a donc été repris pour une totalisation. La durée d'inaptitude totale temporaire a été de 12 mois. Après rémission complète et obtention d'un bon équilibre hormonale par opothérapie substitutive, le malade a obtenu une aptitude par dérogation.

4. Conclusion:

Les lésions cancéreuses de la sphère ORL est une pathologie rare en milieu aéronautique. Même si on aboutit à une rémission complète après traitement, les prérogatives de la sécurité aérienne exigent qu'il ne puisse y avoir de séquelles fonctionnelles touchant la phonation, la déglutition ou l'audition. Une aptitude par dérogation ne sera maintenue que sous réserve d'un suivi médical régulier tous les 6 mois.

Archaeology & ENT : diagnosis readjustment of a set of skulls from the Natural History Museum of Paris and the Dupuytren Museum (Paris)

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But de la présentation :

Montrer à travers des exemples l'intérêt de la collaboration entre les archéologues et les chirurgiens ORL dans la lecture diagnostique de crânes secs ou momifiées pathologiques issus de collection muséographique ou de fouilles archéologiques.

Matériel et méthode :

Etude descriptive d'une collection de 52 crânes anciens issus du Muséum d'histoire naturelle de Paris et de 28 crânes provenant du musée Dupuytren (Paris) présentant des lésions de nature traumatique, tumorale ou infectieuse.

L'ensemble des crânes a été étudié macroscopiquement selon les procédés archéologiques et paléopathologiques habituels.

Nous avons réalisé un scanner (OPTIMA-64 barrettes) pour 8 d'entre eux dont le diagnostic étiologique était incertain.

Les recherches historiques ont été réalisées en collaboration avec l'académie de médecine, le musée du Val-de-Grâce et le musée d'histoire de la médecine.

Résultats :

La visualisation directe de lésions osseuses apporte un regard nouveau sur ces lésions pathologiques anciennement cantonnées à la vision 3D des reconstructions du radiologue.

Cette étude nous a permis d'effectuer un rajustement diagnostique pour 31 de ces crânes (39%).

Nous présenterons notamment le cas d'une syphilis congénital mandibulaire, d'un méningiome temporal et d'une maladie de Paget initialement diagnostiqué respectivement comme un ostéomyélite mandibulaire, un fungus de la dure-mère et une tumeur maxillaire.

Conclusion :

Les réajustements diagnostics effectués dans cette étude permettent de montrer de la nécessité d'une collaboration entre les archéologues et des spécialistes en chirurgie cervico-faciale notamment grâce à leur connaissance anatomique et clinico-pathologiques.

Chronic cervical lymphadenopathy in an outpatient setting: analysis of 30 cases in Bamako.

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OBJETprésentation : Notre étude avait pour objectif de déterminer le profil sociodémographique des patients présentant une adénopathie cervicale, de décrire les examens cliniques et paracliniques et d'énumérer les principales étiologies.

Matériels et Méthode :Il s'agit d'une étude prospective d'une série de 30 cas d'adénopathies cervicales colligés au service d'ORL-CCF du centre hospitalier universitaire Gabriel Touré de Bamako sur une période de 1an allant de Septembre 2013 à Août 2014 avec pour chaque patient inclu une collecte d'items sociodémographiques, de motif de consultation, de résultats de l'examen clinique et paracliniques.

Résultats : La fréquence des adénopathies était de 0,45% des 6600 consultations. Un pic de fréquence a été noté dans la tranche d'âge de 0 à 15 ans. Le sexe masculin était le plus concerné avec un sexe ratio de 1,5. La plupart de nos patients étaient d'origine urbaine (73%). Les signes généraux étaient dominés par la fièvre (26,66%), l'AEG et l'amaigrissement (20%). La localisation sous-digastrique était la plus fréquente (53,3%). Tous les patients ont bénéficié de la NFS, la CRP, la VS et l'IDR à la tuberculine.

Les étiologies infectieuses étaient prédominantes 63,34% dont deux cas d'adénites tuberculeuses. Les étiologies tumorales ont représenté 26,67%. Les hémopathies ont représenté 10% des étiologies.

Conclusion : les adénopathies cervicales chroniques sont ignorées le plus souvent en pratique tropicale surtout quand elles ne s'accompagnent pas de signes associés bruyants. Il importe que les praticiens n'oublient pas qu'elles peuvent potentiellement engager le pronostic vital.

Mots clés : ADP, cervico-faciale, chroniques, infectieuses, inflammatoires, malignes.

ENT tract *Aspergillus* infection in chronic renal failure : 2 case report

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Introduction : *Aspergillus Fumigatus* est un champignon cosmopolite largement présent dans notre environnement, mais aussi l'espèce la plus souvent responsable d'infections invasives chez les patients immunodéprimés. L'examen mycologique avec culture sur un prélèvement ou une biopsie est indispensable pour confirmer le diagnostic. L'atteinte ORL par l'*Aspergillus Fumigatus* reste rare. Nous en rapportons deux cas.

Patients : Il s'agit de deux patients hémodialysés chroniques de sexe masculin suivis dans notre structure. Le premier est un patient âgé de 34 ans ayant une localisation laryngée d'aspergillose révélée par une dyspnée laryngée aiguë. Le deuxième est un patient âgé de 58 ans atteint d'une rhinosinusite aspergillaire compliquée d'une cellulite orbitaire nécrosante. Le diagnostic était confirmé par la mise en évidence de filaments mycéliens en faveur d'une greffe aspergillaire. Le traitement antifongique était démarré avec une évolution fatale dans le premier cas par détresse respiratoire.

Conclusion : L'aspergillose laryngée primaire est exceptionnelle, alors que l'aspergillose nasosinusienne est en nette recrudescence. Les infections fongiques revêtent le plus souvent un caractère bénin mais leurs formes invasives et complications potentielles, en particulier chez le patient immunodéprimé, incitent à réaliser un examen mycologique systématique en plus de l'examen bactériologique afin d'instaurer un traitement antifongique précoce et adéquat.

EPIDEMIOLOGICAL AND CLINICAL ASPECTS OF GOITRE IN PARAKOU

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Objectif

Déterminer la prévalence, les caractéristiques épidémiologiques, cliniques du goitre et le statut iodé du sujet goitreux à Parakou en 2016.

Matériel et Méthodes :

L'échantillon composé de 1010 sujets, a été probabiliste selon la technique de sondage en grappe à deux degrés. L'étude s'est déroulée du 1er mai au 31 juillet 2016.

Résultats :

Sur un total de 1010 personnes, le goitre a été diagnostiqué chez 30 (3%). La prédominance était féminine à 93,3% et le caractère familial retrouvé dans 20% des cas. Cliniquement, le goitre était homogène dans 76,7% des cas, multinodulaire dans 20,0%, ferme et sensible dans 3,3%. Sur le plan évolutif, 30% de la population goitreuse ont présenté des signes cliniques de compression. L'hypothyroïdie et l'hyperthyroïdie ont représenté respectivement 6,66% et 30% de la population goitreuse. La carence iodée a été retrouvée chez 13 sujets goitreux soit 43,33% de la population goitreuse.

Conclusion

En 2016 dans la commune de Parakou le goitre sévit sous la forme sporadique mais il est associé à un déficit iodé dans près de la moitié des cas. Pour cela, des mesures de sensibilisation et d'éducation doivent être pérennisées pour assurer une meilleure santé de la population.

Mots clés : prévalence, goitre, Parakou, sporadique, carence iodée.

EPIDEMIOLOGICAL AND CLINICAL ASPECTS OF GOITRE IN PARAKOU

M.Flamin*(1), S.Hounkpatin(2), D.Guezo(3), U.Vodouhe(4), K.Amoussou- guenou(4), W.Adjibabi(4), B.Vignikin- yehouessi(4)

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Mots clés : prévalence, goitre, Parakou, sporadique, carence iodée.

Ganglion's tuberculosis

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Objet de la présentation : l'objectif était d'étudier les aspects épidémiologiques, diagnostiques et thérapeutiques de la tuberculose ganglionnaire en milieu tropical.

matériels et méthodes utilisées : l'étude a été rétrospective et multicentrique allant du 1er Janvier 2009 au 31 Décembre 2016. Ont été inclus, les patients chez qui le diagnostic de tuberculose ganglionnaire avait été retenu dans la période d'étude et dans l'un des trois centres hospitaliers concernés.

Résultats : en 7 ans, la tuberculose ganglionnaire a été recensée 16 fois soit une incidence de 2 à 3 cas par an. L'âge moyen des sujets était de 29 ans avec des extrêmes de 11 ans et 53 ans. La tranche d'âge de 0 à 29 ans était la plus touchée (10 cas). Dans la série, 07 sujets étaient de sexe masculin et 9 sujets étaient de sexe féminin soit un sex ratio de 0,78. Le délai moyen de consultation était de 2 mois. Les motifs de consultation étaient la tuméfaction cervicale (14 cas) et la cervicalgie (02 cas). Tous les patients ont présenté des adénopathies cervicales. Ces adénopathies étaient bilatérales dans 15 cas et unilatérales dans 1 cas. Elles étaient fistulisées à la peau chez 5 patients. Les principales chaînes ganglionnaires atteintes étaient la chaîne jugulo-carotidienne (14 cas), la chaîne sub-mandibulaire (11 cas), la chaîne spinale (07 cas) et la chaîne sus claviculaire (05 cas). L'intradermo-réaction à la tuberculine était positive dans 9 cas. L'examen anatomopathologique après adénectomie a confirmé le diagnostic chez tous les patients. Six sujets avaient une infection à VIH associée. Aucun patient n'a présenté une autre localisation bacillaire. Le traitement a consisté en une chimiothérapie anti-tuberculeuse selon le protocole national, chez tous les patients. Il s'agit du protocole 2ERHZ/4RH. L'évolution a été favorable dans tous les cas avec guérison complète en fin de traitement.

Conclusion : la tuberculose ganglionnaire doit être évoquée devant toute adénopathie cervicale chronique.

Hypopharyngo-oesophageal perforations by foreign body

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Objectif :

La perforation hypopharyngo-oesophagiennes par ingestion de corps étranger (CE) est une complication rare et grave. De ce fait, sa prise en charge n'est pas standardisée. Le but de ce travail était d'analyser les difficultés thérapeutiques de ces perforations et d'analyser leur pronostic.

Matériels et méthodes

Sur une période 16 ans allant de 1998 à 2014, nous avons colligé 573 patients ayant ingéré des CE pharyngo-œsophagiens pour extraction endoscopique aux tubes rigides. 11 patients (soit 1,9% des cas) se sont compliqués d'une perforation. La perforation était diagnostiquée par la tomodensitométrie (TDM) et/ou l'endoscopie. Nous sommes partisans du traitement conservateur des perforations oesophagiennes sur œsophage sain.

Résultats

Il s'agissait de 3 enfants et 8 adultes. Les corps étrangers étaient dominés par les fragments d'os (55% des cas). D'après l'exploration endoscopique, ces perforations étaient présumées d'origine iatrogène dans 54,5%. Ainsi, le taux global de perforation iatrogène était de 1%. Des difficultés d'extraction ont été notées dans près de 50% des cas. Le diagnostic a été posé dans un délai maximum de 2 jours. Un traitement chirurgical a été posé initialement devant des difficultés d'extraction (dans 1 cas de pile qui a migré dans la paroi œsophagienne en sous muqueux ce qui a échappé à l'endoscopie et a été mis en évidence par la TDM) et devant la présence d'une collection importante ≥ 4 cm) sans geste de réparation oesophagienne. Nous avons eu recours à la chirurgie après échec du traitement médical dans un seul cas devant l'apparition d'une pleurésie abondante cloisonnée avec apparition de salive dans le drainage thoracique et persistance du syndrome infectieux. L'acte était une décortication pleurale associée à une fermeture de la plaie œsophagienne par un lambeau musculaire intercostal et une gastrostomie d'alimentation. Ainsi, le traitement de ces perforations était chirurgical dans 28% des cas et conservateur dans 72% des cas. L'évolution était favorable et sans séquelles dans 10 cas (soit 90%) et fatale dans un seul cas. Ainsi, la mortalité globale dans notre série était de 0,17%.

Conclusion

Le traitement non-opératoire est une alternative proposée par certains auteurs mais la meilleure attitude reste controversée dans la littérature. Nous avons démontré, à travers notre série l'efficacité du traitement conservateur des perforations hypopharyngo-oesophagiennes par corps étranger en l'absence d'un syndrome infectieux sévère.

Isolated hydatid cyst with cervical localisation, about a case. EH OF SKIKDA,ALERIA.

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Introduction : L'hydatidose est une antrozoose qui sévit à l'état endémique dans certains pays notamment le Maghreb et les pays d'Amérique latine où elle pose un véritable problème de santé publique.. Les localisations préférentielles du parasite sont le foie et le poumon (80 à 90 % des cas), le parasite peut se développer dans n'importe quel organe, le siège cervicofacial est très rare, et représente moins de 1 % de l'ensemble des localisations.

A propos d'un cas clinique : Les auteurs rapportent l'observation d'une patiente de 27 ans présentant une atteinte cervico-faciale isolé.on effet cette patiente Z H, Originnaire et demeurant a Skikda(Algérie), consulte pour tuméfaction cervicale sous mandibulaire gauche d'apparition progressive.

le traitement: La patiente a bénéficié déjà d'un drainage chez un confrère maxillo-faciale ,suspectant une cellulite d'origine sous mandibulaire.

Une ponction : a l'aiguille de 10 cc, a ramené un liquide en EAU DE ROCHE .

Bilan biologique : en dehors d'un syndrome inflammatoire ,le bilan était correcte

TRAITEMENT:

Cervicotomie exploratrice : une incision a deux travers de doigts du bord inférieur de la mandibule, Exérèse du kyste et la glande sous mandibulaire gauche. Un aspect en eau de roche faisait suspecter un kyste hydatique, Envoie de la pièce a l'anatomopathologie,Antibiothérapie en post op.Le kystte est constitué de deux membranes :

La membrane externe, cuticulaire, membrane hyaline blanchâtre protectrice vis-à-vis des bactéries et de grosses molécules mais laissant passer les éléments nutritifs.

ANATOMOPATHOLIE:

Le kyste est constitué de deux membranes :

La membrane externe, cuticulaire, membrane hyaline blanchâtre protectrice vis-à-vis des bactéries et de grosses molécules mais laissant passer les éléments nutritifs.

La membrane interne, proligère ou germinative, responsable de la persistance de l'espèce.

* Il contient le liquide hydatique « eau de roche », les vésicules proligères, les vésicules filles et le sable hydatique.

Autour du kyste, le parenchyme de la glande mandibulaire se tasse et devient l'adventice ou le péri kyste, où se développent progressivement une importante réaction granulo scléreuse et une riche néo vascularisation.

Conclusion : Le kyste hydatidique cervicale n'est pas une pathologie si rare que ça , il faut savoir y penser a chaque fois qu'il y a une tuméfaction cervicale d' allure kystique ou non , sachant le nombre de diagnostique différentiel, l'imagerie est un bon element d'orientation diagnostique (échographie, TDM, IRM) . le traitement est avant tout chirurgicale , consiste a l'exérèse totale du kyste avec toute son enveloppe .

kola nut enclosed in the esophagus: a mysterious foreign body in Benin, about 3 cases

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Objectif : exposer le contexte clinique et nos difficultés thérapeutiques

Observations :

Le premier cas était celui d'une femme de 28 ans, vivant en concubinage avec le père de son enfant. Elle a affirmé avoir ingéré accidentellement, une arête de poisson 2 jours plus tôt. Elle a localisé la douleur au creux sus- claviculaire. La pharyngo- laryngoscopie indirecte était normale. Une œsophagoscopie rigide a été réalisée sous anesthésie générale et a retrouvé un corps étranger jaunâtre qui s'était bloqué dans la lumière de l'œsophagoscope permettant une extraction aisée : une noix de kola! Un contrôle endoscopique réalisé dans le même opératoire, n'a pas retrouvé l'arête de poisson signalée par la patiente. Au réveil de celle- ci, la noix de kola lui a été montrée. Elle avait nié plusieurs fois l'avoir ingéré.

Les deux autres patients étaient des hommes célibataires respectivement âgés de 23 et 25 ans, ayant avoué avoir ingéré une noix de kola sur recommandation de leur marabout à qui ils devraient la retourner après l'élimination dans les selles. Un TOGD a été réalisé, objectivant le corps étranger à la bouche œsophagienne dans un cas et au rétrécissement bronchique de l'œsophage dans l'autre cas. Une œsophagoscopie a été réalisée dans les 2 cas, permettant de repousser la noix de kola dans l'estomac sous contrôle endoscopique, faute de matériel adapté à l'extraction d'une noix. Les suites ont été simples.

Conclusion : La traversée du tractus digestif, de la bouche à l'anus d'une noix de kola entière (intacte) est une épreuve à laquelle se soumettent volontairement certaines personnes dans le but soit d'acquérir des forces occultes soit d'intensifier l'amour de leur partenaire. Cette pratique peut se solder par l'enclavement de la noix à l'un des rétrécissements physiologiques de l'œsophage. La prise en charge thérapeutique nécessite une pince adaptée à l'extraction d'une noix.

Management of hearing impairment at Bobo Dioulasso, Burkina Faso: a long chain of solidarity

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INTRODUCTION : La baisse de l'audition constitue un handicap dont les répercussions sociales sont considérables. Il s'agit d'une pathologie fréquente dont la prise en charge demeure encore dans notre contexte un véritable challenge.

OBJECTIF : présenter l'apport d'un partenariat Nord – Sud dans la prise en charge de la surdité

METHODOLOGIE : Nous faisons un état des lieux de la prise en charge de la surdité dans notre service avant puis après le partenariat avec l'association Paul Bouvier (APB) de Saint Hyppolite Du Fort, France. Nous concluons par des perspectives.

RESULTATS : Avant le partenariat avec l'APB, le seul moyen de diagnostic dont disposait notre hôpital était un audiomètre AC33. Outre la présence de quelques écoles spécialisées dans l'enseignement des enfants sourds, il n'existait aucun dispositif de prise en charge des patients souffrant de surdité. Grâce au partenariat avec l'APB, des agents de santé ont été formés à Montpellier à l'appareillage et à la fabrication d'embouts. Des équipements et des prothèses auditives permettent à présent l'appareillage sur place. A travers des missions successives, les enfants appareillés bénéficient d'une rééducation orthophonique et d'un accompagnement scolaire. L'acquisition d'un microscope chirurgical de seconde main en 2016 a mis en exergue les différents maillons de cette véritable chaîne de solidarité tissée autour des sourds de notre région, avec d'une part l'APB et des hôpitaux de Montpellier et de sa région qui fournissent les équipements et assurent les formations, d'autres parts les ressortissants et amis du Burkina résidant à Montpellier qui facilitent l'acheminement du matériel, et le service ORL du CHU qui le met à la disposition des patients.

PERSPECTIVES : Nous envisageons à présent renforcer l'exploration de la surdité des jeunes enfants dans le service afin de raccourcir les délais de prise en charge, renforcer les compétences du personnel dans le diagnostic et la prise en charge de la surdité, étendre la prise en charge à tous les enfants sourds de la région grâce au projet innovant d'école inclusive et de notre projet intitulé dispositif surdité qui a pour ambition d'amener l'offre de soins le plus près possible de l'enfant sourd, et ce, en adéquation avec le programme national de lutte contre la surdité et en partenariat avec la région Languedoc.

Mots clés : Prise en charge – Surdité – Bobo Dioulasso - Solidarité

New numerical prospects in the 3D planning of a cochlear implantation

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Introduction:

Les résultats fonctionnels d'une implantation cochléaire dépendent de facteurs pronostiques relatifs au patient et à ses antécédents, au geste chirurgical lui-même et aux paramètres de réglage des implants. L'implantation du porte-électrodes, se voulant la plus atraumatique possible, est parfois incomplète du fait de la minimisation des forces d'insertion. La modernisation des procédés de modélisation 3D permettent d'optimiser les processus d'évaluation radiologique postopératoire. L'objectif de ce travail est d'apporter une méthode informatique précise et robuste de modélisation 3D du porte-électrodes au sein de la rampe tympanique afin de définir plus précisément l'enroulage du porte électrode, les micro-traumatismes d'insertion et les réglages de stimulation électrique optimaux à adopter.

Matériels et méthodes:

Cinq segments céphaliques de sujets anatomiques ont eu un scanner des rochers avant et après implantation. La cochlée et ses rampes, ainsi que le porte-électrodes ont été segmentées automatiquement grâce à un modèle paramétrique cochléaire et des algorithmes de segmentations développés au préalable. Les reconstructions 3D de la rampe tympanique contenant le porte-électrodes sont visualisées et la qualité de l'enroulage, la présence de micro-traumatismes d'insertion et le nombre et la position de chaque électrode par rapport au modiolus, sont comparés aux résultats de microdissections réalisées sur ces mêmes rochers.

Résultats :

Dix rochers ont été évalués. Nous rapportons une excellente corrélation entre l'étude relative aux résultats issus des modèles 3D et celle relative aux résultats issus des microdissections.

Conclusion : La modélisation 3D postopératoire permet une évaluation robuste du positionnement du porte-électrodes et participe à l'évaluation du pronostic fonctionnel en permettant une optimisation des réglages de l'implant.

PERIPHERAL FACIAL PARALYSIS AND DIABETES

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Objet : La paralysie faciale périphérique est due à une atteinte du nerf facial qui est responsable d'une diminution ou abolition complète de la motricité d'une hémiface. L'échec malgré un traitement bien conduit n'est pas rare. Plusieurs études ont montré une association entre PFP idiopathique et le diabète. Dans notre étude on va analyser la différence en termes d'incidence, de gravité du tableau initial et de taux de rémission chez les patients diabétiques et non diabétiques.

Méthode : Notre étude est rétrospective portant sur 64 patients présentant une PFP dont 12 sont diabétiques colligés sur une période de 05 ans (2011-2016).

Résultats :

L'âge moyen de nos patients était de 36 ans, le sexe ratio était de 1.6 , le délai de consultation était de 4.2 jours . La PFP était d'installation brutale dans 74 % des cas. Le testing musculaire initial était en moyenne de 12.85 chez les non diabétiques et de 10.1 chez les diabétiques avec des extrêmes de 3 à 24. Une corticothérapie était instaurée chez tous les patients. Les non diabétiques ont reçu une dose de l'hémisuccinate de cortisone à 100 mg*3 par jour pendant 10 jours avec une dégression progressive par la suite. Les patients diabétiques ont reçu une dose de 100mg*2 par jour pendant 10 jours avec une dégression progressive par la suite. Une patiente diabétique qui a présenté une infection urinaire avec un diabète mal équilibré avait nécessité l'arrêt de la corticothérapie au bout de trois jours. Tous les patients ont reçu une vitaminothérapie et un traitement vasodilatateur .Une Kinésithérapie motrice quotidienne a été instaurée chez 98 % des patients. Un traitement antiviral chez 72 % des patients. Une Oxygénothérapie hyperbare chez 13 patients. Une récupération complète à 06 mois du début de traitement a été notée dans 79 % des non diabétiques et chez 71 % des diabétiques.

Conclusion : Le diabète sucré joue aussi bien le rôle de facteur de risque de la PFP et que le rôle de facteur pronostique. Il influencerait à la fois la sévérité du tableau clinique initial et le cours évolutif de la maladie. La corticothérapie est le volet principal du traitement et doit être encore plus prudemment contrôlé chez les patients diabétiques.

PROPOSALS FOR ORGANIZING IN OUR AFRICAN HUMANITARIAN ; R. P. ADJOUA et al.

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Résumé

Il est vrai que nos pays africains au sud du Sahara, sont peu développés médicalement sur le plan des infrastructures, sur le plan des équipements et sur le plan du personnel. Cela incite dans le cadre de nos échanges « que certains amis » viennent nous aider dans le cadre d'actions humanitaires.

Il nous semble intéressant de proposer des réflexions afin que ces actes humanitaires soient le plus bénéfique pour nous, pour nos structures et pour nos populations.

Ainsi nous éviterons, des écueils administratifs, des problèmes de susceptibilités et d'acclimatation, des problèmes d'applications de techniques non-éprouvées ou des problèmes de sécurité et même de malentendus pouvant gênés voir ruiner les efforts entrepris.

Il devient nécessaire d'intégrer des principes d'éthique et de transitions humanitaires entre action humanitaire, politiques sociales et développement ; mais aussi des principes d'humanité, de distinction, de précaution, de proportionnalité, d'interdiction des maux superflus et des souffrances inutiles

En plus il est indispensable de mieux gérer le respect des personnes bénéficiaires de l'action humanitaire, avec le respect des cultures et des religions locales et enfin le respect des procédures et de la réglementation en vigueur

Les problèmes de sécurité pour l'équipe des humanitaires, doit être pris en compte avec tous les acteurs intéressés par la question, surtout en ces temps d'augmentation d'actions terroristes.

Mots clés : actions humanitaires, organisation

Role of peripheral oxygen saturation as predictor of upper airways air-flow limitation; a single centre feasibility trial

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Objet de la présentation: l'obstruction des voies respiratoires supérieures représente une urgence clinique difficile à cerner en absence d'antécédents anamnestique; même lorsque la cause est connue, les paramètres pour en définir la gravité ne sont pas claires et souvent pas correctement utilisés. L'objectif de cette étude est celui d'évaluer le rôle de la saturation en oxygène périphérique (SpO₂) dans la prédiction précoce de la gravité d'une limitation au flux d'air des voies respiratoires supérieures. Secondairement on a évalué dans quelle mesure les autres paramètres vitaux et les scores de dyspnée sont affectés par cette limitation.

Matériels et méthodes: on a demandé à dix volontaires de respirer, pendant six minutes, en présence de différents degrés de limitation au flux d'air, créant comme ça un modèle expérimental capable de simuler une obstruction des voies respiratoires supérieures. Pendant chaque test on a détecté la SpO₂, la fréquence cardiaque, la fréquence respiratoire, le volume courant, l'activation des muscles accessoires de la respiration et le degré de dyspnée utilisant des échelles d'évaluation validées.

Résultats: la SpO₂ diminue de manière significative sans atteindre des valeurs absolues pathologiques. La fréquence respiratoire (FR) et la dyspnée, selon l'échelle visuel analogique (EVA) et l'échelle Borg, sont statistiquement corrélés avec le degré de limitation au flux d'air (p inférieur à 0,0001 pour la FR et p inférieur à 0,05 pour la EVA et l'échelle Borg). Aucun changement significatif n'a été observé pour la fréquence cardiaque (p supérieur à 0,05) et le volume courant (p supérieur à 0,05); une FR inférieure à 7 respirations par minute, une valeur EVA supérieur à 4,5 cm ou BORG supérieur à 4 expriment, dans ce modèle expérimental, le cut-off pour identifier un sujet avec une sévère limitation au flux des hautes voies aériennes.

Conclusions: la SpO₂ n'est pas un paramètre sensible à définir précocement une obstruction des voies aériennes supérieures. La fréquence respiratoire et les scores de dyspnée sont des paramètres fiables et précis pour cerner facilement et rapidement la gravité de la limitation au flux d'air des voies respiratoires supérieures. Face à un sujet ayant un haut degré de dyspnée et une fréquence respiratoire au-dessous de 7 respirations par minute il faudrait soupçonner une obstruction sévère des voies respiratoires supérieures et engager une rapide évaluation et gestion appropriée des haute voies aériennes.

THERAPEUTIC FAILURE OF GANGLIONNA TUBERCULOSIS: WHAT TO DO?

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Objet : En 2016, la tuberculose demeure un fléau infectieux majeur. Les atteintes ganglionnaires représentent les localisations extra-pulmonaires de la tuberculose les plus fréquemment observées. Bien que l'échec de traitement et la rechute ne soient pas fréquents, cette situation pose un problème thérapeutique pour les praticiens.

Méthode : Notre étude est rétrospective portant sur 58 cas colligés sur une période allant du mois de juin 2014 au mois de juin 2016 au sein du service d'ORL et CCF de l'hôpital militaire d'instruction principale de Tunis.

Résultats : L'âge moyen de nos patients était de 29,7 ans. Le motif de consultation principal était une ou plusieurs adénopathies chroniques. Le délai de consultation moyen était de 68jours. Le siège des adénopathies se répartissaient au secteur ganglionnaire IIa dans 68,5% des cas, au secteur III dans 33,4% des cas, au secteur IIb dans 18,5%, au secteur I dans 1,6% des cas et en adénopathie sus claviculaire dans 8,6% des cas. L'échographie était systématique pour tous nos patients. Le scanner n'a été réalisé que dans 8,6% des cas. La cervicotomie diagnostique a été réalisée dans 92,7% des cas. Le traitement était basé sur la quadrithérapie à base de Rifampicine, Isoniazide, Ethambutol, Pyrazinamide pendant deux mois, suivis de 6 mois de bithérapie faite d'Isoniazide et Rifampicine. Ce schéma a été pratiqué chez 88% de nos patients. La surveillance thérapeutique était mensuelle pour l'examen clinique et la biologie et tous les deux mois pour l'échographie. Parmi nos patients, trois ont présenté une réaction paradoxale ayant nécessité une association de la ciprofloxacine dans les trois cas, et un curage sélectif dans un cas. Une récurrence a été notée dans 10 cas après un délai moyen de 7,53mois. Le siège de rechute ganglionnaire le plus fréquemment retrouvé était le secteur II. Le traitement a été reconduit après une étude bactériologique sur liquide de cytoponction dans 2 cas et sur adénectomie dans 8 cas. L'adjonction de ciprofloxacine a été nécessaire dans 8 cas. Un curage sélectif a été réalisé dans 3 cas, une mise à plat dans 2 cas et une adénectomie dans 3cas. La durée du traitement a été de 10 à 12 mois. Aucun cas de rechute jusqu'à novembre 2016.

Conclusion : En l'absence de consensus thérapeutique, la tuberculose ganglionnaire pose un problème thérapeutique. En cas de réaction paradoxale ou de récurrence, le praticien se trouve confronté au choix entre le traitement médicamenteux et ou la chirurgie.

tuberculosis in ENT

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Objectifs : décrire les aspects cliniques des manifestations de la tuberculose en ORL, exposer les attitudes thérapeutiques observées et leurs résultats.

Méthode d'étude : L'étude a été rétrospective descriptive et analytique. Elle a été réalisée sur une période de 5 ans allant du 1er Janvier 2011 au 31 Décembre 2015.

Résultats : Ces cinq dernières années, l'incidence de la tuberculose extra-pulmonaire ORL a été de deux cas par an. L'âge moyen a été de 19 ans. Un total de 8 patients soit 72,72% avaient un âge compris entre 0 et 27 ans. Il s'agissait de 7 sujets de sexe féminin soit 63,63% et 4 sujets de sexe masculin soit 36,37%.

Les formes topographiques notées étaient : la tuberculose ganglionnaire 10 cas soit 90,90% ; la tuberculose de l'oreille moyenne avec essaimage ganglionnaire 1 cas soit 9,09%.

Le délai moyen de consultation était de 2,5 mois dans les adénites tuberculeuses et de trois ans pour le sujet ayant présenté une tuberculose de l'oreille moyenne.

La chaîne ganglionnaire jugulo-carotidienne a été la plus touchée : 9 cas soit 81,81% et la chaîne sous-mandibulaire dans deux cas 18,18%.

L'intradermo-réaction à la tuberculine positive a fait suspecter la tuberculose chez 10 sujets soit 90,90%. Deux patients soit 18,18% avaient une immunodépression pour le VIH. L'anatomopathologie a conclu à une tuberculose chez 10 patients soit 90,90%. La cytoponction à l'aiguille fine a permis d'isoler le bacille de Koch chez un patient soit 9,09%.

Une chimiothérapie antituberculeuse a été instituée chez tous les patients. Le protocole 2ERHZ/4RH a été appliqué chez 8 sujets soit 72,72% et le protocole 2RHZ/6EH ; chez 3 sujets soit 27,27%. Tous les patients ont pu finir leurs traitements et ont été déclarés guéris à la fin de leurs suivis selon le centre national antituberculeux.

Conclusion : la tuberculose en ORL peut se manifester sous forme d'adénite chronique ou sous forme d'atteinte de l'oreille moyenne. Son traitement est avant tout médical à base d'antituberculeux spécifiques.

Mots-clés : Tuberculose ORL, ganglions, oreille moyenne, antituberculeux.

L'étude n'a aucun conflit d'intérêt.

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Tyroid teratoma: A case study

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Résumé

Introduction

Les tératomes, tumeurs embryonnaires rares, rare en région cervicale et plus encore de siège thyroïdien. La symptomatologie n'est pas spécifique. Les examens complémentaires sont contributifs mais seule la cytoponction positive ou l'examen anatomopathologique de la pièce opératoire pose le diagnostic et guide la thérapeutique.

Résumé du cas clinique

Nous rapportons un cas de tératome de la thyroïde de découverte fortuite en ORL au CHU Kara chez une patiente de 17 ans qui consulte pour une tuméfaction antéro-cervicale basse augmentant de volume, évoluant depuis 5ans sans signe de dysthyroïdie, sans signe de compression .L 'examen clinique note un nodule développé aux dépens de l'isthme thyroïdien de 3cm de grand axe sur 2,5 cm mollesse, mobile à la déglutition non douloureux et sans adénopathies cervicales palpables.

L'échographie cervicale notifie une formation kystique ovalaire à contenu échogène mesurant 33 mm X 25mm X 9mm isthmique à contenu échogène avec cône d'ombre postérieur par endroit non vascularisé. Pas d'adénomégalie cervicale.

Un bilan hormonal thyroïdien et préopératoire sont normaux.

Une cervicotomie exploratrice faites, nous réalisons une isthmectomie .L'anatomopathologie notifie un aspect histologique d'un tératome pluritissulaire mature thyroïdien, sans signes de malignité .Un suivi est institué à ce jour.

Conclusion

Les tératomes, tumeurs embryonnaires rares, de localisation cervicale tout aussi rare de même que la localisation thyroïdienne et impose d'en définir la nature histopathologique par l'examen anatomopathologique de la pièce opératoire qui oriente la prise en charge thérapeutique.

Mots –clés : tératome ; thyroïde

UNUSUAL FOREIGN BODY OF DIGESTIVE TRACTS EXTRACTED BY LAPAROTOMY AT UNIVERSITARY HOSPITAL BLAISE COMPAORE

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(1)CHU Blaise Compaore, Ouagadougou, Burkina Faso, (2)CHU Yalgado Ouédraogo, Ouagadougou, Burkina Faso

OBJET

Les corps étrangers des voies digestives sont des urgences. Si les habitudes alimentaires et l'âge conditionnent certains types de corps étranger, d'autres par contre sont totalement incongrus. Notre objectif est de rapporter les modalités de la prise en charge d'un cas de corps étranger insolite chez un adulte

CAS CLINIQUE

Nous rapportons le cas de Z A, 23 ans, référée après ingestion d'un corps étranger pendant le brossage des dents. Elle aurait avalé sa brosse à dent et a consulté dans deux centres de santé avant d'être référée au CHU Blaise Compaoré.

Elle ne présentait aucun antécédent psychiatrique. En dehors d'une douleur cervicale modérée, l'examen ORL était sans particularité.

La radiographie thoraco-abdominale a mis en évidence le bout fibreux de la brosse dans la poche air gastrique et la tige dans le bas œsophage.

L'œsophagoscopie au tube rigide dans l'espoir d'une extraction endoscopique n'a pas retrouvé le corps étranger qui avait progressé dans l'estomac.

Une laparotomie a donc été faite avec une gastrotomie permettant l'extraction d'une brosse à dent complète en plastique de couleur verte.

Les suites opératoires immédiates ont été simples.

CONCLUSION

Les CE des voies digestives sont des urgences qui peuvent se rencontrer chez l'adulte de manière insolite, et la prise en charge à temps aurait permis d'éviter une laparotomie.

OBJECTIVE

Foreign bodies of digestive tracts are frequent. If food habit and age conditional types of foreign bodies, others are completely incongruous.

Our objective is to report the methods of care of an unusual foreign body in an adult case.

CLINICAL CASE

We report the case of ZA, 23 years old, referred after swallowing a foreign body, during the brushing of the teeth. She would have swallowed her toothbrush and consulted in two health centers before being referred to the UHC Blaise Compaoré. She had no psychiatric history. Apart from cervical pain, the ENT exam was normal. The thoraco-abdominal radiography revealed the fibrous tip of the toothbrush in the gastric air bag, and the stem in the lower esophagus. The esophagoscopy to the rigid tube in the hope of an endoscopic extraction didn't find the foreign body that progressed in the stomach. A laparotomy was therefore made

with gastrotomie allowing the extraction of a complete green toothbrush. The immediate postoperative follow-up was uncomplicated.

CONCLUSION

Digestives foreign bodies are emergencies that may meet in an unusual way in adults, and the early management would have prevented a laparotomy.

ENT Quality Improvement Program (QIP) : Improving practice via a new morbidity and mortality analysis tool

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(1)Wigan Wrightington and Leigh NHS foundation trust, , United Kingdom, (2)WWL, , United Kingdom

Background:

The National Health Service (NHS) aims to provide universal high quality healthcare. The 'invited reviews'(IRs) process led by the Royal College of Surgeons (RCS) England is an example of regular monitoring which enables this provision. IRs are designed to identify cases where there may be a potential for unsatisfactory surgical performance. A 2013 review of 30 consecutive IRs revealed that a quarter of Trusts required improvement in the quality of Morbidity and Mortality meetings. Subsequent best practice guidance has been published.

- Aim:**
1. Improve Morbidity and Mortality(M&M) data collection
 2. Implementation of a new data collection tool aimed at prevention and analysis of complications.
 - 3, Improve the quality of care by learning from our complications and modifying practice based on this.

Methods:

A retrospective audit of 3-months M&M data was performed. Each case presentation was reviewed looking at four key areas of the RCS standard 'M&M meetings: a guide to good practice' :

1. Detail of case discussed
2. Grading of complication
3. Justification of complication
4. Action plan initiated to prevent recurrence

Following review of the results the ENT QIP was introduced

A subsequent 3-month prospective audit was performed to review the impact on our compliance with the standard.

Results:

Retrospective audit: 14 cases were discussed with a total of 56 (4x14) components assessed from the standard. Though 93% of cases were discussed appropriately, 73% components were missing.

Prospective audit: 16 cases were discussed with 64 (4x16) components assessed from the standard. 100% compliance was found with case discussion, grading, justification and action planning. Additionally, errors were analyzed and action plans formulated including tabulation and tracking, offering educational opportunities and revision of protocols.

Conclusions:

This complete audit cycle demonstrates that the ENT QIP can be used to improve the quality of data collected as part of the morbidity and mortality analysis. It provides clinicians with the ability to quickly grade and assess complications but, more importantly, create action plans to prevent recurrence. This is an important and systematic method of improving reflective learning and improves clinical practice. It is easily applicable to all surgical specialties. Dissemination of lessons learnt and sustaining improvement are the important next steps.

Seeing red: a study of operative note taking in Otolaryngology

S.Millar*(1)

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Title:

Seeing red: a study of operative note taking in Otolaryngology

Purpose of the study:

The purpose of the study was to assess and evaluate the operation note taking in a group of surgeons working in Otolaryngology in Ninewells Hospital Dundee, Scotland.

Materials and methods used:

The surgical department consisted of 11 consultants and 6 registrars. Data was collected over a 2 week period; a template following the Royal College of Surgeons guidelines in operation note writing was used. The initial operative notes were evaluated to their following of the Royal College guidelines. Subsequently an informal discussion took place with the surgical department and posters with guidelines in the operating theatre were placed. Data was the collected in the following 2 weeks using the same template. There were no exclusions and included paediatric cases.

Results:

The study looked at all cases undertaken during the time period including local anaesthetic cases. All operating surgeons were included in the study. There was overall good performance in including the majority of points listed in the Royal College Guidelines however there was a consistent lack of information regarding pre-op checks including WHO checklist; histology samples and intra-operative blood loss.

Conclusion:

The operation note is a method of communication between a surgical team and should include any important findings during a procedure. It outlines a definitive plan post-op and can include follow up requests which is essential for the junior doctors to communicate with administrative staff. It is a legal document and can be used as a reference for subsequent interactions with a patient. The Royal College of Surgeons have offered guidance for the surgical community as a whole in the art of the operative note. As a team there was good adherence to this however there were issues with legibility and detailed plans of follow up including oncology cases. Following intervention by discussion and written information there was a distinct improvement in operative note taking, as guided by Royal College of Surgeons.

Authors and their affiliations:

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The challenges for ENT research to inform health care policy: a narrative review

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Introduction:

It has been estimated that eighty-five percent of investment in medical research has been wasted, with lack of impact on clinical practice and policy. As a result, more effort has been given to increase the likelihood of research being used to influence health policy and clinical practice. Tonsillectomy is one of the most common ENT surgical procedures and has drawn a considerable amount of research and research funding. The national commissioning policy criteria for tonsillectomy in England are controversial and despite the considerable amount of research there appears to be a disconnect between evidence and policy. This paper provides an overview on why it is challenging for research to inform health policy, with reference to the national policy on tonsillectomy.

Method:

A search of the scientific and grey literature was conducted on 10th August 2016 using the PubMed and Google databases. The following search string was used:

(Barriers OR challenges OR difficulties) AND (research OR evidence) AND (health) AND policy). Articles were included if they discussed the challenges for research to inform policy. We related these challenges to the evidence base and national commissioning policy on tonsillectomy.

Discussion:

Five main barriers were identified when using research to inform policy: 1) Quality of evidence 2) Coordinating time frames 3) Lack of available evidence 4) Irrelevant evidence 5) Communication of research findings.

It is essential for researchers and decision makers to be aware of the limitations of research designs and conflicts of interest that can undermine policy decisions. Involving policy makers throughout the research process, from inception to reporting will help focus on areas of unmet need, align research and policy timeframes and increase the uptake of research by policy makers when developing policy.

TRAN-Guid-05

Tips for patient safety in ORL-HNS

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Tips for patient safety in ORL-HNS.

Purpose of the study:

Patient safety has been gaining interest, considered nowadays one of the gold standards that every Institution should keep in mind. Apart from the direct consequences for the patients, complications will increase the costs in healthcare.

Material and Methods:

We designed a Safety Plan in our Department, taking into consideration three landmark publications: To err is Human: Building a Safer Health System (1999), ENEAS (Spanish study on

side effects related to hospitalization, 2005), and The Guideline for surgical patient's safety (Spanish Ministry of Health, 2010), as well as several revisions on complications in ENT. We

also designed small tips for common surgeries that we published in recent years.

In general, we were focused on:

Transmission of information in the Department.

The use of acronyms.

Prevention of infections: hand washing and antibiotic prophylaxis.

The labeling of Microbiology and Pathology samples.

Pharmaceutical Prescription.

Errors and delayed diagnosis.

Prevention of foreign bodies during surgery.

Prevention of Wrong-Site, Wrong-Procedure, and Wrong-Patient Surgery.

Nutritional status assessment.

Postop bleeding.

Informed Consent.

Check- list.

Weekly surgical activity design according to complexity.

Specifically we were focused on Septoplasty, Tonsillectomy, Head and Neck Cancer, Laser and Parotidectomy.

Results: taking into account some tips, it is possible to achieve morbidity and mortality rates under the expected range. The indexes achieved are shown.

Conclusion: Apart from general rules, it is possible to design some specific tips in order to decrease the risks and complication rate.

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Tips for patient safety in ORL-HNS

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Weekly surgical activity design according to complexity.

Specifically we were focused on Septoplasty, Tonsillectomy, Head and Neck Cancer, Laser and Parotidectomy.

Results: taking into account some tips, it is possible to achieve morbidity and mortality rates under the expected range as we did. The indexes achieved are shown.

Conclusion: Apart from general rules, it is possible to design some specific tips in order to decrease the risks and complication rate.

Author:

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Attendance in the specialty of otorhinolaryngology in needy communities in northeastern Brazil..

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(1)SOS Otorrino, João pessoa, Brazil

One of the great challenges of medicine in developing countries is to provide a global and egalitarian approach to all levels of society.

The specialty of otorhinolaryngology suffers from the same difficulty.

The present study intends to demonstrate a simple, cheap and logistically easy alternative to solve the problem.

Since the year 2012 a private medical institution in the otorhinolaryngology specialty of northeastern Brazil has been developing medical care in poor communities leading to the filling of the gap left by the public power.

Through the use of a mobile unit adapted in a conventional bus equipped with 2 doctor's offices, an audiometry booth and video system for conducting complementary exams can reach a large number of patients, ranging from treating how to screen patients to health units of greater complexity. We initially evaluated and patients are initially treated revalidados on a next visit to poor community. Those sent to more complex units prior contact is made with the equipe otolaryngology that unit and acompanhamento the distance is done. With these measures there was a significant reduction in the absence of assistance in especialidade in the city of João Pessoa-northeastern Brazil - low cost to the sponsoring institution - SOS otolaryngologist - with the chance to sensitize the local medical community to the importance of social service as a way to change the paradigm of public health in Brazil.

ENT Outreach Activities by the Royal Australasian College of Surgeons Over Three Decades

M.Baxter*(1)

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Australia and New Zealand are affluent countries with several small Pacific Island neighbours with populations ranging from a few thousand to a few million and whose capacity to service the medical needs , including ENT, of their populations is limited.

Apart from Papua New Guinea there are no local ENT specialists and few local ENT resources or services despite a marked need for them.

Australian and New Zealand ENT surgeons have been carrying out visits to these countries over the years both on private independent basis and ,over the last 25 years , via the Royal Australasian College of Surgeons Pacific Island Program (PIP) plus earlier programs to Papua New Guinea and later ones to Timor Leste and Cambodia. These programs have been mainly funded by the Australian Government via its Australian Aid agency on a contract basis..

This presentation describes the various programs run by the Royal Australasian College of Surgeons in association with the OHNS societies of Australia and New Zealand.

The model has been to send specialist teams of surgeon, anaesthetist ,OT Nurse and other key personnel such as audiologists, to spend one or two weeks in country per year in a service and educational role. All are volunteers but receive travel expenses. Skills transfer has always been seen as paramount and it is hoped this can be extended further with formal training of local ENT specialists and ENT Nurses.

Evaluation of a pre-surgical otologic screening tool: a pilot study in rural Kenya

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INTRODUCTION:

The vast majority (80%) of disabling hearing loss is found in the developing world. Sub-Saharan Africa, where otolaryngology and audiology services are limited, is no exception. In Kenya specifically, there are 1.2 otolaryngologists per 1,000,000 people and 0.12 audiologists per 1,000,000 people. When compared to similar ratios in the United Kingdom, Kenya has 12.1% the capacity of otolaryngologists and 0.3% the capacity of audiologists as the UK per 1,000,000 people. In an effort to expand the capacity for otolaryngologists and audiologists to identify preventable hearing loss, we created a novel, pre-surgical screening tool designed to be conducted by nurses and non-medical staff with minimal training. Screening consists of an iPad audiometry application and endoscopic otoscopy to provide two objective measures otolaryngologists can review to determine a patient's is a candidate for otologic intervention. This study tests the feasibility of the aforementioned screening program in multiple healthcare settings.

MATERIAL AND METHODS:

This is a pilot study characterizing the results of a pre-surgical screening tool. Screening included endoscopic otoscopy with either the Firefly wireless endoscopes or the Cellscope Oto iPhone attachment. Audiometry was conducted using the SHOEBOX iPad Audiometer Professional version.

RESULTS:

174 total ears (n=87 patients) were screened in 6 different settings. Settings included 2 separate deaf schools (n=12,9), a regular primary school (n=9), a TB ward (n=8), and a walk-in otology clinic at a local hospital (n=49). Unfortunately, deaf children exhibited great difficulty understanding iPad audiometry and therefore did not return reliable test data. However, 1 'deaf' child was found to have unilaterally normal hearing. 33% (3/9) of children in the non-deaf primary schools had mild hearing loss and the remainder had normal hearing bilaterally. 37.5% (3/8) of patients on the TB ward exhibited moderate bilateral sensorineural hearing loss (SNHL). The walk-in clinic identified 40% (20/49) of patients with SNHL and 14% (7/49) of patients with conducting hearing loss (CHL). Otoscopic evaluation revealed 2 perforations, 2 middle ear effusions, and 2 cholesteatoma. Local nursing staff and non-medical personnel exhibited proficiency at both the audiometry and otoscopic endoscopy.

CONCLUSION:

This study highlights the utility of this pre-surgical screening tool in identifying and documenting both hearing loss and an otologic examination. These two objective measures can help identify candidates for otologic surgery, an important tool in reducing preventable hearing loss in areas bereft of audiologists and otolaryngologists. The use of iPad audiometry in profoundly deaf children, however, remains a challenge.

Giant facial bone tumors in a subsahelian west african hospital : new perspectives with 3D-printed prosthesis.

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Fibrous bone dysplasia and giant ameloblastoma are frequent in the sub-sahelian region of West Africa.

The origins of those giant bone tumors are unknown but the delay between the start of the disease and the medical diagnostic can be very long (because of the lack of hospitals, the poverty, tradional medicine, etc,...).

Since 2008 the author has made missions in Tanguieta Hospital, Benin, with the Saint John of God organization.

Tanguieta's hospital is a very well equipped hospital in the Atakora region of Benin, near the borders of Togo, Burkina Faso, Niger and Nigeria.

As a center hospital of the sub region, many patients from the countryside come to this hospital, very far from the capitals of those countries were University Hospitals are.

Because of this central position more than 120 languages are spoken to communicate with patients.

Giant bone tumors of the face (maxilla ou mandible) are part of the incredible medical diagnosis made on this hospital.

But the challenge is to remove them without mutilation.

The use of traditional iron and non-anatomical jaw prosthesis are not a good way to restore esthetic and function. Many of those prosthesis are secondary exposed and then removed.

Because of the poverty of the patient, the high level temperature, the lack of post-operative reanimation center, fibula free flaps are not possible.

Since 2015 we have used 3D printed prosthesis.

A web transfer from the CT SCAN made in DJOUGOU (Benin) allows engineers to prepare the 3D printed CT scan prosthesis (Materialise Company)

We report 5 surgical procedures, the last two with integrated implants.

Surgical tips, results and adverse effects and cost are discussed.

How can the ENT societies and international community support universal health coverage through promoting WHO's Priority Assistive Products List?

D.Santana-hernández*(1)

(1)CBM International, Bensheim, Germany

WHO has produced a Priority Assistive Products List (APL) composed of fifty items. Seven of those, including hearing and communication aids, are products designed to improve the quality of life of persons who are deaf or hard of hearing.

The priority APL aspires to follow in the footsteps of the WHO Model List of Essential Medicines, which creates awareness among the public, mobilizes resources and stimulates competition. The APL is similarly intended to be a catalyst in promoting access to assistive technology. It is not a restrictive list but aims to provide each Member State with a model from which to develop a National APL (1).

WHO estimates that today, more than 1 billion people need one or more assistive products. With a global ageing population and rise in noncommunicable diseases, this number will rise beyond 2 billion by 2050, with many older people needing two or more products as they age.

However, only 1 in 10 people in need currently have access. This results in many missed opportunities for people to participate in society – for younger people to access education and work, and for older people to continue to live healthy, independent lives in their own homes. Access to assistive technology offers a public health solution to meet the needs of 21st century populations.

The Priority APL is the first of four tools to be developed by the Global Cooperation on Assistive Technology (GATE initiative), towards increasing access to high-quality affordable assistive products as an integral component of universal health coverage (2).

What about the international ENT community? What are the priorities and plans of ENT societies to contribute to the efforts of their governments, particularly in low- and middle-income countries, to move towards ensuring that all persons with hearing problems in need of assistive devices, will have access to quality affordable products.

As detailed in WHO Executive Board Secretariat Report of 13th may 2016 (3), the desired approach provides ample opportunities for ENT societies to be involved and contribute towards universal health coverage, by supporting the following four interlinked components:

- 1. Policy: assistive technology policy framework**
- 2. Products: priority assistive products list**
- 3. Personnel: assistive technology training package**
- 4. Provision: single-window assistive products service provision**

This presentation aims to provide examples of how we can practically address this important topic, based on the experience of CBM working with Ministries of Health in LMICs.

Long-term personal experience in the humanitarian cooperation and missions

G.Bastianelli*(1)

(1)University of Pavia, Florence, Italy

Purpose of participation to roundtable or institutional course

The Author is presenting his 25 years of humanitarian mission and efforts for Africa and Middle Orient

The first experience of the Author has started in May 1993 as first doctor invited by the President of Republic of Eritrea to work like ear nose and throat Professor at the Mekane Hiwet Hospital in Asmara. The mission was organized by the Mayor of Florence with the Italian Government to twin the cities of Asmara and Florence.

After that, the Author has founded with the Minister of the Health, like Honorary President, a non government organization (NGO) for the developing of ENT surgery in Eritrea. From that time the NGO has given to the hospital a small operating ear nose and throat room. After, many missions of humanitarian cooperation.

The Author has been nominated temporary advisor for World Health Organization (WHO) Geneva to perform like Head Mission surgical and medical stages in the Mekane Hiwet Hospital of Asmara with the cooperation of the University of Pavia in which he is Contract Professor from 1989.

In 1995, the Author as been nominated by WHO Geneva temporary advisor from Yemen Republic in cooperation with the Italian Embassy in Sana'a. He performed the same activity done in Eritrea. And in 1996 he has been nominated Honorary Consul of the Yemen Republic in Florence (the only Yemen Consulate existing in Italy). From that time, in the last 20 years, the Author has specialized the institutional activity of his Consulate through the organization of medical missions, of stages of Yemeni doctors coming to Florence from the Universities of Yemen Republic and by doing, himself, training and teaching activity in Sana'a and Aden Universities.

The Author has been also nominated Visiting Professor to the Faculty of Medicine and Health Sciences, (specialized in nose, ear and throat) at the University of Aden in 1995.

From 2006 the Author is President of the Study Center of the Union of Honorary Consuls in Italy that represents more than 500 consulates, and, currently, promotes conferences and meetings about all the aspects of International cooperation between NGOs, Institutional Organisms, Diplomatic Institutional Agencies like Embassies and Honorary Consulates, and United Nation Agencies.

Otolaryngology Needs in a Free Clinic Providing Indigent Care

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PURPOSE:

To determine the otolaryngology needs in a free clinic providing care to medically indigent patients, as perceived by the patients and health care providers.

MATERIALS AND METHODS:

A cross-sectional survey was administered to patients and health care providers of a free clinic from September 2014 through January 2015 in an urban, inner-city location in the United States.

RESULTS:

One hundred and thirty-seven patients (35.8% male, age 50.8 ± 13.0 years) completed the survey. Mean household income was $\$29,838 \pm \$10,425$; 32.1% spoke English; 54.7% were employed; 10.2% had health insurance; and 37.2% had seen a primary care provider outside of the free clinic. The top three otolaryngology symptoms among patients were sleep apnea/snoring (39.4%), heartburn/reflux (30.7%), and dizziness (29.9%). Eleven health care providers (45% male, age 50.5 ± 15.3 years, 63.6% physician, 36% nurse) completed the survey. Providers perceived the following otolaryngology complaints as the most prevalent, in descending order: cough, nasal congestion, reflux/heartburn, sore throat, and ear infection/otalgia. Providers felt that sleep apnea and hearing loss were the less common otolaryngology complaints, whereas surveyed patients indicated these symptoms with high frequency. The most requested diagnostic tool among patients and providers was chest X-rays.

CONCLUSION:

There are unmet otolaryngology needs in a free clinic. Medically indigent patients have significant barriers to accessing health care. Patient and provider perceptions of top otolaryngology complaints differed, but both identified access to chest X-rays as a major unmet need. Knowledge of patient perceptions may help providers elicit the breadth of otolaryngology complaints.

Utilizing an Academic Health Center model in providing Community-based Hearing Healthcare; The 2016 report from the Starkey Hearing Foundation (SHF)

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The WHO in 2012 estimated that about 5% of the global population (360 million at the time of estimate) suffers from disabling hearing loss. The statistics also revealed that 80% of the prevalent population reside in developing countries, where there is inadequate access to hearing healthcare services.

The Starkey Hearing Foundation has a purpose of “So the world may hear” and believes as a non-governmental organization, solving the public health problem of global proportion requires the adoption of the Academic Health Center model of combining the triad of

- Service delivery
- Training and capacity building
- Research and policy advocacy

In 2016, the Starkey Hearing Foundation through their community-based hearing healthcare programs provided services in about 42 countries in sub-Saharan Africa, Latin America, South-east Asia and Middle east. This translated to serving 50 862 new patients and 111 561 old patients as follow-up care. Of the new patients that were served, they consisted of 54.5% males and 45.5% females, 28.6% were below the age of 18 years and 32.9% above the age of 64 years.

As regards training and capacity building, the Starkey Hearing Institute in Lusaka, Zambia graduated the first set of trained Hearing Instrument Specialists from 8 African countries that have returned to their respective countries to advance the cause of hearing health. Additionally, in 2016, 33 trainings were held for 352 Community health workers around the world on the provision of basic hearing healthcare services.

In Research and advocacy, the SHF championed the cause of having a 5-year strategic plan in Ear care and hearing health in Kenya by supporting financially and technically. The SHF also conducted several cross-sectional studies to understand the etiologies and demographic distribution of hearing loss in the different countries served with the aim of advising partnering governments on simple Public health policies to prevent hearing loss.

In conclusion, the Starkey Hearing Foundation through a simple, sustainable and scalable model has provided a feasible path to bridging hearing health access gap in developing countries and in turn solving the global hearing healthcare problem.

TRAN-MD-01

A Novel Robotic Platform for Robot-assisted Microsurgery

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A Novel Robotic Platform for Robot-assisted Microsurgery

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In microsurgery, accuracy is crucial for the quality of the procedure but limited by the surgeon's physical skills. Robotic technology is able to assist, by enabling higher precision and by reducing issues related to fatigue, accessibility, and ergonomic posture.

A novel robotic platform specifically for microsurgery has been developed by a team of microsurgeons and engineers, who have created a solution that is compatible with current operating techniques, instruments and other OR equipment.

The primary function of the robot is to enhance the precision of the surgeon by stabilizing his or her movements during open microsurgical procedures. The system opens the possibility to improve the outcome of existing procedures and enables new treatment options for currently unsolved conditions.

The device scales down the surgeon's motion and filters out tremor. It is equipped with genuine microsurgical instruments and is used in combination with existing surgical microscopes. In this way, the methodology and infrastructure in the OR remain unchanged. The surgeon and other staff remain at the patient's side and the surgeon is always able to instantaneously continue the surgery manually.

A first prototype of the device has been tested. The device was able to provide a constant surgical performance over time, regardless of surgeon fatigue, level of skill, and physical condition.

Results from preclinical trials indicated that micro anastomoses of 2.0 mm, 1.0 mm, and 0.5 mm vessels can be performed successfully using this system with a steep learning curve and decreasing operative times. Accurate positioning of needle entry and exit points, and passing of the needle in a controlled way were enhanced by the system. Regarding usability, the device was found easy to set up and use. An average learning curve of 10 hours has been identified for a surgeon to become proficient in using the device in a clinical setting.

Further development continues to create a new level of reconstructive surgery by removing the physical barrier of the human hand, thereby enabling development of new and better treatment options across all microsurgical disciplines.

A simple semi-quantitative approach studying the in vivo degradation of regenerated silk fibroin scaffolds with different pore sizes

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The biocompatibility and in vivo degradation rate of biomaterials represent critical control points in the long-term success of scaffolds for tissue restoration. In this study, new three-dimensional (3D) regenerated silk fibroin scaffolds (RSFs) were prepared by the freezing-defrosting procedure, and then were implanted beneath the dorsal skin of rats. This study aims to develop a kinetic semi-quantitative approach to assess in vivo degradation rate and biocompatibility of this kind of RSFs with different pore sizes for the first time, and to evaluate the relationship between the biodegradation and tissue responses by measuring the thickness of residual scaffolds, fibrous capsules and infiltrated tissues through integrated techniques of histology, optical imaging and image analysis. In brief, the semi-quantitative approach involved obtaining histological sections via conventional paraffin wax and hematoxylin eosin (H&E) staining. The sections were imaged under an optical microscope, and analyzed semi-quantitatively by the image assistant software. Changes in these images enabled evaluation of the biocompatibility and the in vivo biodegradation rate. Our results showed that, scaffolds with both pore sizes ($74.35\pm 10.84\mu\text{m}$ and $139.23\pm 44.93\mu\text{m}$, respectively) were well tolerated by host animals and pore size was found to be the rate limiting factor to the biodegradation in the subcutaneous implantation model. In addition, the biodegradation of RSFs was inflammation-mediated to a certain degree and fibroblasts may played a critical role in this process. Overall, such semi-quantitative approach was proved to be a simple and effective method, and the prepared RSFs were presented to have promising potential in tissue engineering applications.

Clinical Usefulness of Metal Artifact Reduction Technology in CT Scanning of the Head and Neck

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#Purpose

The development of CT scanners has led to a revolution in otolaryngology. It is now possible to perform diagnostic examinations very quickly, including evaluation of bones, blood vessels, and vascularity. However, the inevitable presence of metal artifacts (MA) is a major source of frustration.

MA have adverse effects on the acquired data, such as distortion or loss of tissues, which interfere with diagnosis.

To address this problem, CT manufacturers have recently introduced metal artifact reduction (MAR) technologies which have achieved a level of development that makes them suitable for practical clinical application.

We have been actively employing MAR since its introduction. The present study was undertaken to assess its clinical usefulness and limitations mainly on initial experience, in the head and neck disease that the MA from teeth influenced.

#Methods and Materials

The target regions were the floor of the mouth, mesopharynx, and parotid gland. In these regions, the MA often has bad influences on a diagnosis. The subjects were patients with diseases of the above regions who underwent CT scanning in January 2014 or later. A Toshiba Aquilion ONE CT scanner (ver. 6) and Toshiba's MAR technology known as "SEMAR" were used. Images with and without MAR were compared.

#Results

SEMAR was found to be extremely effective, and artifacts were completely eliminated in many patients. In some patients, foreign objects in the posterior part of the tongue and carotid artery aneurysms would have been missed without the use of SEMAR. However, residual MA were observed in some patients with metal objects that were nonuniform in shape or material.

#Discussion and Conclusion

MAR reduces the risk of missing diagnostic findings and is therefore considered to be clinically useful. CT with MAR technology can serve as an alternative to MRI for the examination of claustrophobic patients, patients with metal objects, and pediatric patients. On the other hand, a significant limitation of this technology is that it cannot be applied retroactively to volume data that has already been acquired. Specifically, MAR cannot be applied if the source data has been deleted, which means that medical staff must identify in advance those patients in whom this technology should be applied. Other issues are the time required for calculation (although this is only a few minutes) and the cost of introducing this technology.

Get your Next Endoscopic ENT Surgery with a Cost Effective Innovative Endoscopic Holder

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Purpose of the study :

The problem of endoscopic ENT surgery is that it is a single handed operation as the non-dominant hand is used for holding the endoscope. Endoscopic surgery requires the surgeon's non-dominant hand or one assistant to move the endoscope in coordination with the intervention going on. For many years, people have developed endoscope holder for this task. Endoscope holder allows both hands of the surgeon to be free for surgical procedures and not to fatigue associated with holding the endoscope in the non-dominant hand. This research describes the design, development, and testing of a novel cost effective endoscopic holder.

Materials and methods used :

With the advancement of 3D printing technology, we designed our own innovative endoscopic holder. We have make an innovative endoscope holder with low cost. The endoscope holder is sufficiently small and lightweight and it can be placed directly on the operating table during endoscopic surgery. It consists of an annular base, a clamp to hold an endoscope, and three joints which enable azimuth rotation and inclination of the endoscope. Besides, the innovative endoscopic holder is backdriveable for manual repositioning.

Results :

In contrast to current commercial endoscope holder, the innovative endoscope holder is particularly lightweight, is simple to set up and use, occupies no floor space, and does not limit access to the patient in any way. The endoscope holder was tested and evaluated by several surgeons during a series of endoscopic surgical training procedures on our endoscopic training center. Experimental results are given comparing the current prototype innovative endoscope holder with the previous commercial endoscope holder. Endoscope trajectory-following accuracy and response-time results were measured using an optical localizer and video record. The result of the research showed that it can be used in almost general endoscopic ENT surgeries. The test made it possible to advance the prototype innovative endoscope holder on a variety of aspects, including reliability, steadiness, ergonomics, and dimensions. The ease of installation of the endoscope holder, which takes only 6 minutes, and the easy handling made it possible for almost endoscopic ENT surgeries to be performed with two hands.

Conclusion :

The described innovative endoscope holder has been shown to be a viable, practical device with performance and functionality equivalent to those of commercially available models, yet with greatly reduced size, weight, and cost. With only little additional equipment required, the innovative endoscope holder become a cost-effective device in endoscopic ENT surgery.

Mobile system of vocal assistance for patients with surgical aphonia - SWARA.

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Purpose of the study: Text-to-speech synthesis systems are an important non-intrusive assistive method for speaking impaired persons. However, most of these systems have very slow text input methods, as well as a limited number of available voices. In SWARA project we aim to address both of these issues by means of: a fast predictive text interface, based on domain specific language models; as well as better synthetic voices which can have a higher degree of similarity to the patient's initial voice characteristics.

Material and Methods: For the text-processing and prediction, we built a full stack front-end which includes text normalisation, phonetic transcription, syllabication and accent positioning, as well as a general text-predictor trained on over 5m tokens trawled from the Romanian Wikipedia website. The voice adaptation method is based on an HMM system trained eigen voice built on over 21hs of data recorded in a semi-professional studio, from 19 speakers aged 19-23. Each of the 19 speakers can then "lend" part of their speaking characteristics (such as timbre, rhythm or melody) to the resulting voice.

Results: An interpolation between different speakers, or different speaking styles have been performed. However, the best results were obtained if the patient would be able to record his/her own voice prior to any foreseeable speaking impairment. The required amount of recorded speech can be as low as 15-20 minutes, and it is therefore not an extensive effort on their behalf.

Conclusion: The speaker similarity issue can be achieved by using speaker adaptation methods in statistical parametric speech synthesis frameworks.

Nasopharyngoscope reprocessing in community Otolaryngology clinics - how much is too much? A literature review.

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Objective: Nasopharyngoscopy has become an essential component of the complete head and neck physical examination. The same nasopharyngoscope can be used several times during a busy day in clinic. As such, proper and efficient decontamination procedures are essential to prevent iatrogenic decontamination while minimizing disruption in the timely care of patients. To evaluate this, a systematic review of nasopharyngoscope reprocessing, guideline recommendations and risk of iatrogenic infection was performed.

Methods: Three separate literature searches were performed using Google Scholar, MEDLINE and EMBASE databases to capture information on methods of decontamination, risk of iatrogenic infection and guideline recommendations.

Results: Currently utilized decontamination methods include glutaraldehyde, ortho-phthalaldehyde, peracetic acid, hydrogen peroxide, chlorine dioxide and endoscopic sheaths. There is no evidence to suggest differences in the efficacy of decontamination between these various agents. Current Canadian guidelines are extrapolated from endoscopes with working channels used in higher-risk areas of the body, and likely do not accurately represent the risk presented by nasopharyngoscopes. From the available evidence, the risk of iatrogenic transmission is actually exceedingly rare.

Conclusion: This study provides a descriptive review of the available decontamination options to which there are no differences in their efficacy. The actual risk of iatrogenic infectious contamination is very low. Despite the aforementioned, there currently is a lack of specific guidelines for nasopharyngoscopy decontamination to direct clinical standards.

Assessing the medico-economic impact of a rhinologic surgery outpatient unit in a University hospital

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Objectives: To assess the cost-effectiveness of outpatient surgery related both to medical safety and financial control of expenses, when performing rhinological surgery in an ambulatory setting.

Methods: A retrospective study was conducted from January 2014 to January 2016 (in a major teaching hospital). The patients scheduled for ambulatory sinonasal surgery were systematically included. Clinical data were extracted from surgical and anesthetic computer files. The cost accounting methods applied in our institution were used to evaluate logistical and technical charges for every patient. A standardized tax system based on patient comorbidities and disease severity was used to estimate institutional earnings.

Results: Over 2 years, 927 outpatient surgical procedures were performed. The immediate hospital admission rate was 2.9%. Overnight stay was mainly related to surgical complications. A positive satisfactory index obtained from a Day-1 phone call assessment was 85%. Net income and expenses related to the outpatient cohort analysis were compared with a mathematically estimated financial impact of the same activity performed as an inpatient surgery, when all the patients would stay overnight in the hospital. Statistical analysis shows significantly decreased net expenses while incomes were not statistically modified.

Conclusion: In our study, the rate of unplanned admissions is low, demonstrating that a sinonasal surgery activity is suitable for safe ambulatory practice. Moreover the reduction of logistical and technical charges within an outpatient setting, consistent with the need for stronger financial control within our health care system, tends to extend ambulatory surgery to more procedures and patients. Further studies using micro-costing tools are required to improve such a cost-effectiveness assessment. We also need to better address the probably significant additional costs related to secondary visits to the general practitioner after surgery.

Avoiding changes in appointment times at the outpatient clinic by the design of first and follow-ups agendas.

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Avoiding changes in appointment times at the outpatient clinic by the design of first and follow-ups agendas

Purpose: Changes in appointments at the outpatient clinic is an annoying situation for the patient, carries extra administrative costs, can delay diagnosis and the patient can make a complaint.

But unexpected personal or institutional matters can happen and the outpatient agendas in some cases need to be rescheduled. Unexpected matters can't be foreseen.

It is obvious that the follow-ups are scheduled in the long term and the first visits are in the short term. That is to say, the short term has "void slots".

Material and methods:

We designed the agendas in different ways. For example, in agendas A the first patients scheduled were first visits, and in the second part of the agenda there were follow-ups. Other agendas, B, were designed the other way: in the first part of the agenda there were follow-ups, and in the second part, first appointments.

In the event of an unforeseen event, the empty gaps of the first visits of agenda A and B were blocked. Obviously this implies that the same doctor should attend the follow-ups of both agendas, that is to say, the first part of agenda B, and the second part of agenda A, but on the other hand, the number of reappointments needed was much lower.

Results:

Following these steps, only 0,28% of patients had a change in their appointment in 2016 due to organisation matters.

Conclusion:

This design is an option and every institution should schedule the outpatient clinic according to its singularities (agendas only for new patients is another option). Our distribution is an example that in our hands has good results.

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Cost Effectiveness of Posaconazole for treating refractory mucormycosis in patients with hemato-oncologic diseases.

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PURPOSE OF THE STUDY: Perform a complete economic evaluation of posaconazole from the government perspective as payer. Determine the budget impact of including posaconazole in the national formulary. **MATERIALS AND METHODS:** A fixed cohort model was used to evaluate the expected costs and effects of treating refractory mucormycosis patients. The comparator used was "the best support treatment" (BST) due that until now, there is no other option in the national formulary. Data for efficacy, safety and epidemiologic data was obtained from literature. A Delphi panel with infectologists and intensive care physicians was performed to determine the use of resources. The cost information was obtained from the published by public health institutions and estimates of direct cost were made from it. The incremental cost effectiveness ratio (ICER) was calculated and deterministic univariate and probabilistic sensibility analysis were performed and finally a budget impact model. **RESULTS:** The expected cost of patient treated with BST was 4,574,64 USD and for posaconazole 6,142.67 USD (exchange rate of 1 USD = 20,8175 MXN) this gives an incremental cost of 1,568.03 USD. For every 10 patients treated with posaconazole, 7 will survive in contrast with 3 when treated with BST. The ICER obtained was 3,608,41 USD which is lower than the threshold for Mexico (aproximately 7,813,96 USD) leading posaconazole as a cost effective alternative. The sensitivity analysis demonstrated that the model is robust as non of the more uncertain parameters put the ICER above the threshold. The probabilistic analysis showed that posaconazole has a probability near a 100% of being a cost effective decision. The Budget Impact model demonstrated that including posaconazole in the national formulary, will impact below the 0.003% of the budget for pharmaceutical and laboratory products. Refractory mucormycosis being a high mortality disease, represents a big challenge for Public health care institutions as no treatment choice is included for this kind of patients. **CONCLUSIONS:** Posaconazole has demonstrated to be a cost effective alternative that can save lifes when treating patients with refractory mucormycosis, and the inclusion in the Mexican National Formulary will not impact the budget for drugs and laboratory products above 0.003%.

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Evolution of the ENT ambulatory surgery at the Hospital of Torrevieja

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EVOLUTION OF THE ENT AMBULATORY SURGERY AT THE HOSPITAL OF TORREVIEJA.

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***ENT Service Hospital de Torrevieja, Alicante (Spain)**

Objectives

The purpose of this study is to show the experience of the ENT Service at the Hospital of Torrevieja (Spain) during 10 years (2007-2016), study the evolution throughout the years of the ambulatory surgery, explore the factors that have influenced the change of tendency, analyze the main quantitative as well as qualitative indicators, evaluate the quality perceived by the patient, and determine the possible aspects of improvement.

Materials and methods

A cross-sectional and descriptive study is made, with retrospective character, in which we study in quantitative and qualitative form the ambulatory surgical patients in the ENT Service at the Hospital of Torrevieja during years 2007-2016.

Several sources were used for the collection of data: Computerized clinical history, Statistical analysis of complications, Customer Service, Ambulatory Surgery Service, Patient satisfactions surveys and Focus Group with ENT doctors.

Results

The total rate of ambulatory surgeries has increased from 60% initially to 80% in the last years. By procedures, amigdalectomy/adenoidectomy has the biggest increasement arriving at 75%. The suspensions have diminished from 4% to 2%, most of them because of prior disease of the patient. Patient satisfaction surveys show a 89% of Net Promoter Score, and detects improvement aspects such as waiting time for the surgery, and postoperative pain.

Conclusions

The accomplishment of ENT surgery is realized more and more in ambulatory setting. This is a safe technique, with a high grade of patient satisfaction, and respectful with the hospital resources.

It is necessary to measure the qualitative and quantitative indicators, granting relevance to patient's opinion, in order to make possible a continuous improvement, that allows to guarantee quality and security.

Improved instrument utilization on surgical trays - the benefit of tray optimization

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Objective/Hypothesis: As healthcare costs continue to increase, creative ways to reduce expenses are sought. Anecdotally, large numbers of surgical instruments on surgical trays are redundant and thus reprocessed, repaired and replaced unnecessarily. The purpose of this study was to determine both time and cost-savings by streamlining surgical trays.

Study Design: Prospective pre/post-intervention study

Methods: Surgical tray assembly times were measured over a 3 month period within the central processing department for four surgical procedures (tonsillectomy, septoplasty, sinus surgery, and septorhinoplasty). Half way through the study, surgical trays were optimized to only contain instruments used in more than 20% of cases. processing department assembly times and OR set-up times before and after tray optimization were compared to estimate increases in efficiency and any cost savings.

Results: Tray assembly times were found to be substantially shorter following optimization, ranging from 48-66% reduction in assembly time. Standard deviations around mean assembly times were also found to be narrower post optimization. Results suggest staff spend less overall time assembling trays with less variation between assemblies with optimized trays. In the OR, surgical set-up time reduction ranged from 20-60%, with an absolute time savings of up to 8 minutes. Nurse satisfaction surveys were universally positive, citing greater comfort with instruments and reduced stress from time pressure.

Conclusion: The data collected in this study demonstrates the benefits of minimizing surgical tray clutter on both efficiency and cost reduction in both central processing and in the OR theatre. This also potentially translates into reduced time for training new staff in assembly and set-up.

Less porters than operating rooms, or how to start on time

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Less porters than operating rooms or how to start on time.

Purpose: The starting moment of the first surgery at the operating room will have a strong impact in the scheduled activity, the OR occupancy and therefore its efficiency.

It is a fact that the starting time is the same in all the ORs, but the 2nd, 3rd surgeries and so on is not. Furthermore, not every OR has their own porters exclusively assigned, who have to attend several of them.

One of the problems arise if an OR needs extra porters to move the patient from the ward or prepare him at the OR. The rest will remain unattended, and the 1st procedure can be delayed.

Material and methods:

To avoid this delay of the 1st surgical activity, an agreement was reached among all the departments of the hospital, consisting of: the first surgical procedure scheduled shouldn't need extra numeric support of porters, that is to say, the simplest procedure.

Results:

According to this agreement, the activity at the OR increased by 4%.

Conclusion:

Clinical management implies economic measures and unfortunately in the last few years, the shortage of investments is a daily worry. The cost of a minute at the OR is extremely high, and according to opportunity cost, money wasted in one activity will be lost in another activity.

Agreements like this at zero cost are a way of avoiding the domino effect of not starting at the right time in one single OR with the available resources. It is of paramount importance to consider the surgical area as a whole and not as "isolated boxes"

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Epidemiological profile of patients with mucosal leishmaniasis in an brazilian reference center - historic serie of 20 years

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Introduction: Leishmaniasis is considered one of six more importants infectious diseases by World Health Organization (WHO), that can take diferentes forms wich destructives and disfiguring lesions, with high impact in quality of life of patients. The number of people affected by leishmaniasis is estimated around 12 millions in 88 countries of four differents continents (Asia, Africa, Europe and America). Around 3% to 5% the cases of cutaneous leishmaniasis are caused by *Leishmania braziliensis* and develop mucosal lesions, during of after resolution of cutaneous disease.

Objectives: Describe epidemiological characteristics of the patients with American Tegumentary Leishmaniasis and mucosal manifestations, that were attended in Reference Center of Corte de Pedra.

Methods: transversal retrospective study, serie of cases, with epidemiological data analisis about cases those were diagnosed between 1995 January and 2014 December.

Results: 177 cases of American Tegumentary Leishmaniasis were studied with mucosal manifestations between 1995 and 2004, and 262 cases between 2005 and 2014. A mean age was, respectively, 36.25 and 38.8 years. In the period of 1995 e 2004, 55.9% of the cases showed preview cutaneous lesions, while between 2005 a 2014 it was 40.1%. About mucosal sites, the nasal site was the more affected in both periods, respectively, 82.1% and 87.1%. Oral lesions (oral cavity and oropharynx) were second most affected sites, 16% in the first period of the study, and 13.2% in the last period.

Conclusions: the majority of the patients with American Tegumentary Leishmaniasis and mucosal manifestations showed previous report or concomitant of cutaneous lesions, and the mucosal form as the first manifestation is more rare. Mucosal manifestation was predominant among sites of mucosal disease. Use of early multidisciplinary interventions, and effective therapeutic intervention has been enabled a reduction in the incidence of more serious and irreversible injuries.

Authors: Tassia Milenna Oliveira de Souza; Tainara Soares Carvalho; Daniel Mattos; Carolina Cincurá Barreto; Clara Mônica Figueiredo Lima; Sérgio Arruda; Marcus Miranda Lessa; Edgard M. Carvalho . Federal University of Bahia.

Head and Neck Melioidosis - A Singaporean Centre's experience

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Melioidosis is a potentially deadly disease caused by the gram-negative saprophyte *Burkholderia pseudomallei*. It is still an unfamiliar infection in most of the countries especially in developed countries and is endemic in Southeast Asia and Northern Australia but recent case reports show that it is spreading beyond the known endemic regions. It more commonly affects people in regular contact with soil and water. Based on severity, melioidosis may present from a local infection to a systemic disease. Reports of melioidosis involving the head and neck are fairly rare. The mortality and relapse rate of melioidosis is high especially when there is systemic infection and in endemic less-developed countries due to delays in diagnosis, commencement of treatment and access to intensive care. Here we describe three cases of melioidosis that presented with rare manifestation in the head and neck from October 2015 to July 2016 to our tertiary referral centre in the West of Singapore.

The treatment of melioidosis is still a global dilemma due to under diagnosis, high mortality rate and unacceptable high relapse rate³. Melioidosis should always be a differential diagnosis of the head and neck cold abscess in an endemic area. It should be borne in mind in cases of cold abscesses of the neck when the characteristic features of abscess are missing, for example, fever and tenderness. Early detection and long term antibiotic therapy prevents systemic dissemination of the disease and poor prognosis. It is likely that cases are often untreated due to unawareness. A high index of suspicion is needed for diagnosis due to its varied clinical presentation and scarcity. In cases of suspicion for melioidosis, intravenous ceftazidime should be started while waiting for definitive microbiological culture and sensitivity.

TRAN-MT-03

Leishmaniasis-Hansen and other especifics NAW

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Hemos hecho un estudio retrospectivo y hasta la fecha de pacientes afectados de enfermedades específicas diversas : leishmaniasis, lepra, paracoccidiosis, histoplasmosis, de diferentes sexos y la mayoría adultos, que presentan afecciones Otorrinolaringológicas diversas, se trabajo se realizo en conjunto con : el programa de detección de Leishmaniasis, centro dermatológico e instituto de enfermedades tropicales de la provincia de Corrientes Argentina.

La intención es transmitir :

***que existen más de lo que se cree en el 2017**

***que se pueden prevenir y tomada a tiempo pueden curarse**

*** que hay mas manifestaciones otorrinolaringologicas de lo que se sabe, tanto en : Oidos, Nariz, Orofaringe, Laringe y Traquea**

***que puedan identificarlas luego de estas imagenes, para evitar ser diagnósticadas erróneamente.**

Por ser nuestra región calida y humeda recurren endemias en determinada epoca del año(primavera-verano), de estas patologías infecciosas específicas producidas por parasitos(leishmania mucosa y cutaneomucosa), hongos(histoplasma-paracoccidio) o micobacterias(Hansen-tuberculosis), debido al clima subtropical, tenemos estadisticas que nos permiten transmitir y compartir esta experiencia a través de pruebas fotograficas diferentes pacientes y patologias, que avalan lo expuesto anteriormente como tambien las respuestas al tratamiento recibido por los enfermos.

A propósito de casos que se expondrán en el mismo e pósters que se intenta presentar.

Muco-cutaneous Leishmaniasis, an atypical finding in ENT area.

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Purpose of the study

Leishmaniasis is an infectious disease caused by a protozoan of the genus *Leishmania*, which is inoculated by the sand fly. This disease is geographically distributed in endemic areas, corresponding to the Mediterranean coast to one of them, however currently in the western world incidence partially depends on migration factors. Leishmaniasis has three clinical presentations classified as cutaneous, muco-cutaneous and visceral or Kala Azaar. Although muco-cutaneous presentation is the most infrequent pattern, it has more frequency and interest in the field of ENT. We had the purpose to describe how this pathology affects the ENT area in our population.

Materials and methods used

We introduce a retrospective revision of mucocutaneous leishmaniasis diagnosed in the ENT services of Hospital Clínic Universitari of Valencia, Hospital Lluís Alcanyís of Xàtiva and Hospital Virgen de los Lirios of Alcoi; those three hospitals are placed in the Valencian region, in the east coast of Spain, area that corresponds to one of the higher incidence areas in the European Union.

We collected 9 cases, six of them were laryngeal leishmaniasis, and the rest were leishmaniasis muco-cutaneous lesions in other ENT places. We compared their different presentations and characteristics, their anatomopathologic characteristics at diagnosis, and a review of the different patterns of treatments that were used. Furthermore we did a bibliographic review of the leishmaniasis pathology in ENT area and the different patterns of treatment reported.

Results.

The comparison among the different locations showed higher comorbidity in laryngeal localization respect to the others. All patients achieved a complete remission of the disease, in spite of the different patterns of treatment. Our results were compared with the bibliography and we didn't find in any paper a longer series in Europe, the bibliography not clarify which pattern of treatment is the most appropriated.

Conclusion

Even the lower incidence of the mucocutaneous presentation against other Leishmaniasis presentations, the ENT surgeon must stay acquainted with the different clinical presentations that this disease can exhibit in ENT area, and introduce it in their own habitual differential diagnosis, as well as know the treatment and the behaviour of this disease.

ORBITAL MASSES AND THEIR SURGERY RELATED TO ENT ACTIVITY IN DEVELOPPING COUNTRIES AND DUE TO RARE PATHOLOGIES.

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Purpose of the study: To analyse the incidence, etiologies, diversity, diagnostic and therapeutical options of tropical and rare pathologies with orbital involvment in ENT practice.

Materials and methods used: A retrospective analysis of ENT patients data collected in Amazonia, Africa and insular Europe was achieved.

Results: Orbital pathologies referred to ENT care in these areas are rare and mostly considered as sinusitis by the general practitioners and the patients themselves. The majority occurs in the pediatric population. Though rhinological and intracranial origins dominate, primary orbital pathologies are found as well requiring a diagnostic and/or therapeutic intervention. Rapid progression of the diseases and diagnostic delay related to late patient presentation and poor availability of medical services are important challenges. The rate of complications, mortality and lost follow-up are high. Adapted ENT check-up may reveal malformative, infectious, traumatic and tumoral origin. Meningoencephaloceles, T-cell lymphomas, mycosis and abscesses are frequent. Genetical and environmental factors play an important role and the influence of migration can be confirmed in many cases. HIV infection can be associated especially in mycotic cases. Depending on the entity, adapted treatment can be often selected.

Conclusion: Due to climatic changes, migration and participation in humanitarian missions European ENT surgeons must deal with those kind of orbital pathologies that formerly were mostly related to tropical areas, representing a worldwide diagnostic and therapeutical challenge, just like the manifestations of rare diseases in the area. Careful anamnestic job and physical examination should be followed by adaped diagnostic means when available. The knowledge of these pathologies and the therapeutic algorithms are musts to provide a better quality

Successfully treatment of refractory mucosal leishmaniasis with Miltefosine in an endemic area– a case report

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American Tegumentary Leishmaniasis (ATL) presenting around 10% of the cases with mucosal involvement. The kind of treatment of ATL depends on the clinical aspect of the lesion and the infecting species, and systemic treatment is recommended in all patients with mucosal manifestations. The main available drugs for systemic treatment are parenterally administered pentavalent antimonial or amphotericin B. Miltefosine has been used for the treatment of visceral leishmaniasis for a number of years, but its application to the treatment of cutaneous and mucosal leishmaniasis is still under investigation.

A 61-years-old man, farmer from southeastern part of Bahia was referred to our Reference Center in Tegumentary Leishmaniasis in September 2016. He was referring nasal block in the last 60 days. He also complained of rhinorrhea, nasal crusts and odynophagia in this period, without symptoms in skin. He presented ulcerative and granulations in nasal mucosa and infiltration in uvula, despite the deformity of nasal pyramid as a sequel of previous episode of mucocutaneous leishmaniasis two years before, when he was treated with glucantime without clinical cure, followed by treatment with amphotericin B. Mucosal leishmaniasis diagnostic was established by consistent epidemiological history and previous positive reaction in the leishmanin skin test. He was submitted to treatment with miltefosine (Impavido®) 150mg/day during 28 days. The patient didn't report side effects. In the later clinical evaluation after 30 days of treatment finishing the presence of previous lesions weren't detected, and he was considered cured.

Treatment of mucocutaneous leishmaniasis is complicated by intrinsic species-specific differences in drug susceptibility. Actually, miltefosine resistance has not been characterized in vivo yet.

We reported that the mucosal leishmaniasis patient was responding well to miltefosine therapy. The patient completed the treatment course and demonstrated healing on clinical evaluation. We conclude that oral miltefosine is an effective treatment option for mucosal leishmaniasis, specially in refractory cases that has been used other drugs like pentavalent antimonials or amphotericin B without satisfactory results. Due to the often prohibitive cost of the miltefosine, further research and development are therefore required

to further optimize the use of this drug as well as identify oral treatment that can be of much shorter course and have a better safety profile, efficacy and be more affordable.

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thyroid teratoma a case report

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Introduction

Les tératomes, tumeurs embryonnaires rares, rare en région cervicale et plus encore de siège thyroïdien. La symptomatologie n'est pas spécifique. Les examens complémentaires sont contributifs mais seule la cytoponction positive ou l'examen anatomopathologique de la pièce opératoire pose le diagnostic et guide la thérapeutique.

cas clinique

Nous rapportons un cas de tératome de la thyroïde de découverte fortuite en ORL au CHU Kara chez une patiente de 17 ans qui consulte pour une tuméfaction antéro-cervicale basse augmentant de volume, évoluant depuis 5ans sans signe de dysthyroïdie, sans signe de compression .L 'examen clinique note un nodule développé aux dépens de l'isthme thyroïdien de 3cm de grand axe sur 2,5 cm mollasse, mobile à la déglutition non douloureux et sans adénopathies cervicales palpables.

L'échographie cervicale notifie une formation kystique ovale à contenu échogène mesurant 33 mm X 25mm X 9mm isthmique à contenu échogène avec cône d'ombre postérieur par endroit non vascularisé. Pas d'adénomégalie cervicale.

Un bilan hormonal thyroïdien et préopératoire sont normaux.

Une cervicotomie exploratrice faites, nous réalisons une isthmectomie .L'anatomopathologie notifie un aspect histologique d'un tératome pluritissulaire mature thyroïdien, sans signes de malignité .Un suivi est institué à ce jour.

Conclusion

Les tératomes, tumeurs embryonnaires rares, de localisation cervicale tout aussi rare de même que la localisation thyroïdienne et impose d'en définir la nature histopathologique par l'examen anatomopathologique de la pièce opératoire qui oriente la prise en charge thérapeutique.

Mots –clés : tératome ; thyroïde

Le tératome de la thyroïde : A propos d'un cas

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Aucun conflit d'intérêt signalé par tous les auteurs

24-HOUR HOLTER MONITORING IN ENT-SURGERY PATIENT

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Purpose. To collect and assess data on Holter monitoring of septoplasty and tonsillectomy patients under different anesthesia.

Methods. Group1 consisted of septoplasty patient (62 patients, 17-45 years old), 63 tonsillectomy patients aged from 18 to 46 made up Group2. Surgery was performed under local anaesthesia with 2% lidocaine (1A, 2A subgroups) or with 2% articaine (1B, 2B subgroups). SDNN(ms), SDANN index (ms, ultra-low frequency(ULF) heart rate variability), SDNN index (ms, very low frequency (VLF) heart rate variability), rMSSD (ms, high frequency heart rate variability) were estimated. Shapiro-Wilk test was used to determine normality, and either a two-tail student t-test or Mann-Whitney U-tests was performed to determine significant difference ($p<0.05$) between groups.

Results. SDNN was higher for 1A than for 1B. But 1B showed greater SDNN dispersion than 1A. There was no significant difference between subgroups in Group2. Group1 and Group2 had resembling SDNN values distributions. 28.5% patients in 1A had SDANN below normal and 71.5% had normal SDANN. In 1B patients was distributed in the following way: 37.5% – below normal, 37.5% – normal, 25% – above normal. 45% patients had low SDANN, 36% patients had normal SDANN and 18% patients had high SDANN in 2A. High variability of SDANN was detected in 1B and 2A. 1A patients had normal SDNN index. There was high dispersion of SDNN index in 1B: 50% of patients had normal values, 50% – above normal. 72.3% of 2A patients had normal SDNN index and 36.4% – above normal. 2A and 2B showed no difference in SDNN index distribution. High dispersion of SDNN index was observed in Group2. 28.6% of 1A patients had rMSSD higher than normal and 71.4% had normal rMSSD. 25% of patient had normal, 50% higher and 25% lower than normal values of rMSSD in 1B. Whole 1B had normal rMSSD. There was high dispersion of rMSSD in 2A: 18% – below normal, 36.5% – normal, 45.5% – above normal.

Conclusion. Disadaptation was observed in patients of 1B and 2A. 24-hour Holter monitoring could provide useful information on condition of ENT-surgery patients.

Acute pharyngitis and subacute thyroiditis in a viral infection

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INTRODUCTION Sore throat, difficulty in swallowing, temperature are the most common complains we found examining patients that come to us in a viral infection season. Acute pharyngitis accounts 1.1 % of visits in the prime care settings and is ranked in the top 20 diagnoses resulted in office visits. It also accounts 15 to 30% cases in children and 5 to 15 % of cases in adults. Sore throat may be caused by a viral or bacterial infection or other conditions as thyroiditis, GERD, secondary post nasal drip to rhinitis, persistent cough, allergies, foreign body and smoking. Only 20 % of the cases goes to antibiotic therapy especially in those positive to strep test so well validated diagnose is the gold key for our patients

AIM Find the right diagnose in patients with sore throat, difficulty in swallowing, temperature and other symptoms of a viral infection. Making a differential diagnose between a faringitis and a subacute thyroiditis goes to the right therapy.

METHODS AND PATIENTS we have taken under our study 30 patients with throat complains as sore throat, disfagia,subfebrile temperature, ear pain, unilateral pain in the neck. They have undergone blood test, strep test ,PCR, Fibrinogjen ,echo of the thyroid gland and thyroid hormones(TSH,FT4,FT3)

RESULTS: We found acute pharyngitis and subacute thyroiditis in 5 patients.We found acute pharyngitis in 15 patients and subacute thyroiditis in 10 patients.We treated patients with acute pharyngitis with antiinflammatories ,antipiretics and antihistaminics and we added prednisone(5mg/kgP)in patients with both diseases and other patients were treated only with prednisone.

Conclusion: It is very important to make the right diagnosis in patients with acute sore throat,because we found acute thyroiditis in 33% of the patients,50% with acute pharyngitis and in 17% with both comorbidities.Because of the right diagnose comes the right therapy which is cortisone therapy in patients with thyroiditis that prevents later hypothyroidism.

Beyond neoplasia: a role for actinomyces?

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Purpose

Actinomyces are gram positive rods known to be commensal bacteria of gastrointestinal and genitourinary mucosa. Under specific conditions may cause infection of several structures, including palatine tonsils.

Materials and methods

The authors review two clinical cases where actinomyces was found to be associated with lesions resembling tumoral growth.

Results

The first report relates to a 59-year-old female who presented a history of blood stained cough for three years. Physical examination revealed hypertrophy and tumefaction on the left side of her lingual tonsil. A CT scan and MRI shown a mass occupying the left palatine fossa, infiltrating ipsilateral pharyngoepiglottic fold and lingual base. PET scan exposed an hypermetabolic focus both on the described region and at a laterocervical adenopathy. Serial biopsies were undertaken that showed no signs of malignancy. Instead, only reactive lymphoid hyperplasia and actinomyces permeating epithelial layer were observed.

The second case reveals a 57-year-old female who experienced unexplained weight loss over four months associated with diarrhea and one episode of hemoptysis. There were no relevant alterations on her physical examination. Initial diagnostic work up revealed a slightly asymmetrical oropharynx with right palatine tonsil hypertrophy, contrast enhanced on CT. PET scan revealed hypermetabolic focus on the oropharynx more pronounced on the right tonsil. The patient was submitted to tonsillectomy whose pathological analysis showed lymphoid hyperplasia with actinomyces.

Conclusion

In this cases we observed nonspecific inflammatory conditions in which actinomyces was found.

An inflammatory mucosal response to infectious agents is well described to commensal agents, such as *Helicobacter pylori*, but, to our knowledge, no association is established between actinomyces and oropharyngeal mucosa.

The authors suggest that this interaction should be explored in order to understand a potential pathogenic role among carriers.

BLOOD CORTISOL LEVEL CHANGES AFTER TONSILLECTOMY

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Aim. The purpose of the study was to answer the question if there was any relationship between blood cortisol level and pain level at early postoperative stage after tonsillectomy.

Materials and methods. Two anesthesia procedures were compared: Group1 – combination of local infiltration anesthesia with total anesthesia (35 patients), Group2 – local infiltration anesthesia only (69 patients). 1% lidocaine solution was used to perform local anesthesia. Pain level was measured by visual analogue scale in millimeters.

Results. Cortisol level was normal in both groups before surgery. Its values were 19.2 ± 3.9 ug/dl and 18.2 ± 2.9 ug/dl in Group1 and Group2 accordingly. After surgery, no significant change of cortisol level in Group1 were observed (24.1 ± 5.6 ug/dl, $p < 0.01$) but it considerably increased up to 28 ± 3.4 ug/dl in Group2 as compared with both presurgical and Group1 values ($p < 0.01$).

In Group1, no or mild pain was reported by 40.0% of patients, moderate pain – by 37.0%, severe and very severe – 14.0% and 9.0%. Patients in Group2 were distributed as follows: 15.9% – no or mild pain, 34.8% – moderate pain, 39,1% – severe pain, 10.2% – very severe pain. Coefficient of determination vales of 0.70 in Group 1, and 0.63 in Group2 were obtained using linear regression.

Conclusions. Blood cortisol level monitoring helps to assess stress response. Pain and blood cortisol levels are related. Pain level estimation after tonsillectomy is necessary technique of analgesia quality check.

Cell analysis of the tonsil surface in the diagnosis of chronic tonsillitis

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Aim: to determine differences between cell profiles of smears prepared from throat swabs in patients with chronic tonsillitis (CT) and control.

Materials and methods: throat swabs from the surface of each tonsil were collected from 15 patients with CT and from 15 participants of control group. Smears from obtained swabs were Giemsa-stained. Epithelial cells, macrophagocytes, white blood cells were counted in 10 areas for each sample. Average values and standard deviations were calculated for each type of cells in each group. Shapiro-Wilk test showed that cell numbers were not distributed normally in groups. Hence, Mann-Whitney U-tests was performed to determine significant difference ($p<0.05$) between corresponding pairs of measured values in groups.

Results: Patients with CT showed significantly higher quantities of epithelial cells, lymphocytes, segmented neutrophils and macrophagocytes 15.8 ± 11.7 ; 15 ± 4.2 ; 6.12 ± 3.02 ; 1.38 ± 1.33 cells per area. Number of basophilocytes was higher in control group: 2.86 ± 3.28 cells per area. High standard deviations in group of patients with CT were due to the heterogeneity of the group. However our study were limited to ascertain chronic tonsillitis by smears prepared from throat swabs and not to distinguish between forms of tonsillitis. Sensitivity of the method was 0.69 and specificity 0.62.

Conclusions: The diagnostic test of swabbing the surface of the tonsil can be additional detecting tool for chronic tonsillitis and, in the long term, its latent and initial forms.

Clinical and epidemiological profile of outpatients attending to otolaryngology service at a health institution of medium complexity, Envigado, Antioquia, Colombia 2010-2014.

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Objective: To determine the clinical and epidemiological profile of outpatients attending to otolaryngology service at a health institution of medium complexity of Envigado **Methods:** Cross-sectional retrospective descriptive study, which included medical records of patients admitted to otolaryngology outpatient service during the study period, an instrument for collecting sociodemographic, clinical and treatment variables was designed. The analysis was performed using SPSS v 19.0 program; for the description of qualitative variables absolute and relative frequencies were used, for the quantitative variables average and standard deviation. **Results:** 769 clinical records were included, there was a predominance of females with 56.3%, urban origin with 92.3% and 98.6% belonged to the contributory scheme. Regarding personal history, 46.4% reported a Otolaryngology history, which corresponded to the main pathologies of the nose and airway with 50.2%, followed by diseases of ear with 25.2%. The main reason for consultation was hearing loss with 23.7% of patients; the treatment most often used was the drug therapy with 57.4%, followed by surgical management and others with 14.2% and 20.3% respectively. **Conclusion (s):** The ear pathologies were the most frequent entities within this specialized query It also found that other non otolaryngology symptoms had a great importance, especially during patient assessment, indicating that the otolaryngology diseases may be involved in non-specific clinical manifestations and therefore difficult to diagnose sometimes.

ENT LOCALISATION OF AMYLOIDOSIS: AN EXPERIENCE ABOUT 20 PATIENTS

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Backgrounds : Amyloidosis is a rare pathology. It is up to a toxic accumulation of amyloid protein into tissues. Published studies have low statistical power. However it seems that ENT localization have favorable prognosis. Management and check up are not well codified.

Methods: Bicentric retrospective study conducted between the Nantes and Tours university hospital between 1987 and 2015, from every patient diagnosed with ENT amyloidosis. The research was led on the database of the anatomo-pathology department. People concerned, history, symptoms and diagnostic features analysis has been performed. The immunologic and clinical features, extension, origin, check-up, treatment and prognosis have been studied.

Results: twenty patients were included, ten men and ten women, whose average age was 55.5 year of age. Three patients were afflicted with familial amyloidosis. Main localisation was larynx (80%), main type was AL (80%). It was mostly localised (90%) and primary form (80%). Dysphonia was the most frequently encountered symptom. Most performed examination were local biopsy and creatinine clearance (100%), serum protein electrophoresis (SEP) (89%), myelogram and/or bone marrow aspiration (75%), and trans thoracic echography (TTE) (75%). Surgical removal was performed for 75% of the patients. Global rate of recurrence was 70%, about 4.57 years after diagnosis. In familial form, global ten year survival rate was 66%. In non familial form, global ten years survival was 100%.

Conclusion: ENT amyloidosis are mostly AL, laryngeal, primary and localised. Extension check up associate creatinine clearance, local biopsy, TTE, SEP and myelogram. Treatment is surgical removal, familial form are of poor prognosis.

Extra nodal head and neck tuberculosis

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Purpose: The aim of this study is to discuss diagnostic problems of the extra nodal head and neck tuberculosis and to analyze its epidemiological and clinical specificities.

Materials and methods : we carried out a retrospective study of 24 patients having extra-nodal localizations of tuberculosis managed between January 2003 and May 2016.

Results : our study included 15 women and 9 men, with a mean age of 46 years. The mean duration of symptoms before consulting was 9 months. A family history of tuberculosis was reported in one case. The clinical signs as well as radiology and endoscopy outcomes were not specific. Blood investigations such as total and differential white blood cell count were normal in all cases. Tuberculin skin test, performed in 7 patients, was positive in 4 cases. Ultrasound imaging, magnetic resonance imaging and CT scan were performed in 10, 3 and 2 cases respectively. Diagnosis of tuberculosis was histopathological in all cases. The disease affected the nasopharynx in 13 cases, the tonsils in 3 cases and the larynx in 4 cases. The thyroid and the parotid glands were concerned in 2 and 1 cases respectively. One patient had a rhinosinusian form. Chest X-ray showed an associated pulmonary lesion in one case. All our patients received medical treatment based on antitubercular chemotherapy: Four drug regimen (rifampicin, isoniazid, ethambutol and pyrazinamide) in the intensive phase of two months followed by two drugs (rifampicin and isoniazid) in a continuation phase of further 6–8 months. The evolution was favorable in all cases. Neither resistance nor recurrence had been reported. The mean follow-up period was 12 months after the end of the treatment.

Conclusion : tuberculosis is still one of the most devastating bacterial diseases to affect humans. Lack of characteristic symptoms of extra nodal head and neck tuberculosis lead often to misdiagnosis. The treatment is based on anti-tubercular chemotherapy. The role of surgery is to establish an early diagnosis and initiate early treatment.

Hippocrates the oto-rhino-laryngologist: an epidemiological analysis of ENT diseases in the corpus hippocraticum

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Introduction : Hippocrates a grec physician during the fifth century b.c. is often considered the father of medicine. The corpus hippocraticum comprising of 58 volumes was attributed to him solely for a long time. Nowadays it is considered that several authors contributed to its creation between 450 and 150 b.c so over a period of 300 years. The objective of our study is to develop a nosologic classification of all passages treating head and neck surgery. Furthermore we aim to extract all oto-rhino-laryngological and maxillo-facial diseases from the corpus hence deducing the existence of said diseases in the geographical region and the time of its creation.

Material and methods: We read and analyzed all volumes of the corpus hippocraticum in french translation and extracted all passages dealing with oto-rhino-laryngological and maxillo-facial conditions (n=62). We classified all pathologies into five distinctive nosological groups: traumatic, infectious, malformative, cancerous, and inflammatory. Each group was given a percentage depending on its representation in the passages analyzed.

Results : Traumatic diseases represented 38,7% (n=24), infectious 54,84 (n= 34), malformative 0% (n=0), cancerous 1,61% (n=1) and inflammatory 9,68% (n= 6). These results represent the living conditions of this era, during which diseases were mostly of infectious or traumatic nature (wars, physical labor and recreational sporting activity, living together on close quarters, etc.).

Conclusion : The meticulously detailed observations of the corpus give us a precious insight into the early perception of diseases, their evolution and early attempts of treatment. Of great interest to us hereby was the comparison of the proportion of disease etiologies now and then. Notably the increase of cancerous and malformative and the decrease of infectious and traumatic remedies.

Impact of non-steroidal anti-inflammatory medication on the complication occurrence of peritonsillar abscess

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Objective: Complications of Peritonsillar abscess (PTA) can be dramatic and non-steroidal anti-inflammatories (NSAID) are frequently prescribed before hospitalization. The purpose of this study was to assess the impact of NSAID medication on the management and complication occurrence of peritonsillar abscess.

Methods: A single-centre retrospective review was performed in that were admitted our department between 2005 and 2013 patients suffering from peritonsillar abscess. Complication was defined by the use of more than one puncture, surgical drainage and infectious complications. Primary endpoint was non-steroidal anti-inflammatory medication in the 30 days before hospitalization. Statistical analysis was performed using t-student and Wilcoxon's tests for quantitative data, Chi2 and Fisher's tests for qualitative data.

Results: In 169 patients that were included, the sex ratio was 1.73, average age was 34 years (15-83). Fifty-six percent (56%) were smoker. NSAID previous medication has concerned 66% (68/102) of the patients. The overall rate of complications was 47%. There was no significant difference on PTA's complications among patients who took NSAIDs and those who did not ($p=0.79$). Symptomatology was not different with or without NSAID drug use ($p=0.59$ for visual analogue scale pain, $p=0.8$ for trismus) and length of NSAID consumption was not associated with increased PTA's complications ($p=0.68$). NSAID medication was significantly associated to previous antibiotic medication ($p=0.01$), as well as tobacco use ($p=0.05$).

Conclusion: This study failed to demonstrate any significant relation between NSAID medication and complications of PTA. Although there is no high level evidence-based proof on the NSAID pro-infection role, the lack of benefit in tonsillitis does not encourage its routinely use in the indication of tonsillitis and PTA.

Maxime Codet, Valentine Parent, Pr Franck Jegoux, Camille Briand, CHU de Rennes, France

Massive Epistaxis due to Profound Malaria-Induced Thrombocytopenia in a 16 Years Old Adolescent: A case report at the Yaounde Gynaeco-Obstetric and Pediatric Hospital, Cameroon

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ABSTRACT

We report the case of a 16 years old adolescent male admitted in the pediatric unit of the Yaounde GynaecoObstetric and Pediatric Hospital for severe malaria with convulsions. On the second day of admission he developed with abundant epistaxis which led to severe anemia. After investigations, malaria inducedthrombocytopenia was retained as cause of the epistaxis.

Management included quinine infusions for the malaria, and transfusions with fresh whole blood, direct nasal compressions with gauze pledgets. The outcome was favorable and the patient was discharged on the 11th day of admission day.

KEY WORDS: Epistaxis, thrombocytopenia, malaria, Plasmodium falciparum

RÉSUMÉ

Il s'agit du cas d'un adolescent de 16 ans de sexe masculin admis dans le service de pédiatrie de l'Hôpital Gynéco-Obstétrique et Pédiatrique pour paludisme grave avec convulsions. Au deuxième jour de l'admission, il a présenté une épistaxis abondante qui a entraîné une anémie sévère. Après investigations la thrombopénie induite par le paludisme a été retenue. La prise en charge a consisté en un traitement antipaludique avec la quinine en perfusion, transfusions sanguines avec du sang frais total, et des compressions nasales antérieures.

L'évolution a été favorable et le patient est sorti au bout

de 11 jours d'admission.

**MOTS CLÉS : Épistaxis, thrombopénie, paludisme,
Plasmodium falciparum**

Newly detected HIV-infection using HIV screening test in operative ENT-patients within a period of 8.6 years

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Background: HIV infection has developed into a pandemic since the 1980s. Despite the rate of new infections is decreasing, 2 million people are newly infected with HIV every year.

Material and methods: Retrospective evaluation of HIV screening investigations from April 2008 to October 2016.

Results: During this period 20288 screening tests were carried out. Of these, 20144 tests (99.3%) were negative, 10 (0.05%) showed questionable or borderline values, 31 (0.15%) were weakly reactive and 103 (0.5%) reactive. The non-negative tests (144) belonged to 80 patients. In 5 cases, the checkup was negative. 3 patients withdraw from checkup test, 1 patient from the Western blot. This resulted in a total of 71 Western blots and PCRs for further investigation. In 54 cases, HIV infection was excluded. In 7 patients, HIV infection had already been diagnosed before screening test. Ten patients received the initial diagnosis of HIV infection.

For an HIV screening test a price of approx. 17.50 € and for a Western blot and PCR must be estimated again 175 €. This leads to the total cost of 367465 € in the above mentioned period.

Conclusion: With a total of 20288 HIV screening tests and costs of 367465 € 10 new infections were detected over a period of 8.6 years. This corresponds to a positive rate of 0.05%. Since a high hygienic standard is to be expected for each patient's contact in each operating subject, a critical question is whether the use of resources is justified for a screening of all operative ENT patients or whether HIV screening should only be restricted to risk groups.

Peripheric Facial Paralysis: does epidemiology supports viral ethology?

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Introduction: Peripheric Facial Paralysis, the rapid complete or (more usually) partial loss of facial nerve function, is a frequent diagnosis in every emergency unit – annual incidence of 20-30 cases per 100,000 population – and an important differential diagnosis of stroke, brain tumor or systemic infection. Despite most patients recover completely, some face a dismal prognosis due to lifelong disfiguration. Its ethology remains unknown; however, a viral pathogen is suspected. Treatment options include corticosteroids to reduce facial nerve oedema and inflammation, antiviral to reduce virus aggression and general measures as ocular protection and facial rehabilitation.

Methods: recently published literature was searched to identify risk factors, treatment options and recent advances on ethology; a 4-year retrospective review of peripheric facial paralysis cases occurring in our hospital was conducted.

Results: several variables were evaluated such as event month, gender, age, race, symptom duration, accompanying symptoms, pregnancy, hypertension, diabetes, auto-immune disease, previous episodes, diagnostic imaging and laboratory testing performed, otorhinolaryngology observation, House-Brackman scale and pharmacological treatment.

Conclusion: Despite its frequency, Peripheric Facial Paralysis remains a therapeutic challenge for clinicians. Although most cases are benign and recovery completely, some still provoke lifetime disfiguration and low life-quality in affected patients. Corticosteroids and antiviral agents are the most used drugs, despite only the first being recommend by the American Academy as monotherapy. Since no clear ethology was identified till now, the ideal therapeutic remains to be identified. In our study, typical risk factors for peripheric facial paralysis were evaluated, as well as the diagnostic tests and pharmacological therapeutics used by general practitioners, internists, neurologists and otorhinolaryngologists in a tertiary hospital.

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Recurrent facial palsy and Melkersson- Rosenthal syndrome

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Bell's palsy has been the subject of fierce debate for decades, but only few data are found in the literature about recurrent idiopathic facial palsy and even fewer data regarding children. Melkersson-Rosenthal syndrome is a rare disease of unknown pathogenesis preponderant with incomplete forms that often delays the diagnostic

Purpose :

We attempted to analyze some clinical and epidemiological aspects of recurrent idiopathic palsy, highlighting the important findings and correlations between data existing in the literature and those obtained in this study.

We hope this study will help clinicians to manage Bell's palsy knowing that recurrence is expected in more than 1 out of 10 patients, and will motivate them search for methods of preventing recurrences.

Methods & Materials :

-This is a retrospective study carried out on a 10 years period for adults (101 patients) and a 5 years period for children (50 patients).

-We divided them according to demographic parameters, records of recurrences, presence of criteria for Melkersson - Rosenthal syndrome .

-Patients with secondary paralysis or suffering of Zona zoster were excluded

Conclusions and results :

-Our study found a significant incidence of idiopathic facial palsy recurrences in adults (15%) and children (12%), with two to six episodes of facial palsy or paralysis predominantly on the ipsilateral hemiface.

-Recurrent idiopathic facial palsy was diagnosed more often in young females and all patients suffering of Melkersson-Rosenthal syndrome were women between 20 and 40 years old, without familial aggregation .

- We should follow up of patients diagnosed with Bell's palsy, especially children, for at least two years from the onset, because recurrence is more likely to occur in this interval.

- Although the correlation is not statistically significant, we noticed that the onset during childhood was a risk factor for recurrent facial palsy

Role of Complementary medicine to improve patient outcome in the perioperative period in patients undergoing ENT surgery

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Abstract

Background: Preoperative anxiety and postoperative pain within ENT surgical cases can lead to a variety of complications, such as delayed healing and prolonged hospital stay. Conventional medicinal methods utilize drugs that are often expensive, invasive, and may introduce additional adverse side effects. Therefore, it is important for providers to consider alternative treatment plans that may provide similar beneficial effects, either as adjunctive or primary forms of care. We assessed the evidence for the clinical effectiveness of aromatherapy, acupuncture, music therapy, hypnosis and herbal supplements on anxiety and pain in otolaryngological surgical patients.

Methods: A systematic review of the literature on complementary medicine was carried out. Searches on the clinical effectiveness of complementary and alternative medicines (CAM) on preoperative anxiety and postoperative pain were conducted in Medline, PubMed and other major databases. Research was focused specifically on otolaryngological procedures, such as tonsillectomies, functional endoscopic sinus surgeries, septoplasties, and neck dissections.

Results: Multiple relevant trials were selected after inclusion criteria were met. In order to allow for a comparative control group, the trials selected were primarily composed of randomized controlled trials. An analysis of the clinical trials revealed that CAM was effective at reducing preoperative anxiety and postoperative pain. Unlike conventional methods, CAM was not associated with any adverse side effects.

Conclusion: There is sufficient evidence that the use of CAM on patients undergoing otolaryngological surgeries can help relieve preoperative anxiety and postoperative pain.

Sensitivity of *Candida albicans* strains to naturally occurring compounds apigenin and apigenin-7-O-glucoside

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***Candida albicans* could be found in oral cavities of healthy individuals but it can cause different forms of mycotic inflammation of oropharynx in elderly patients and patients with compromised immunity. There is constant need for new safe and effective antifungal substances development since fungi are frequently resistance to conventional antifungicides. Naturally occurring flavonoids, apigenin-7-O-glucoside (AP7Glu) and apigenin have multiple biological activities such as anticancer, antiviral, etc. In this pilot study we investigated in vitro, their ability to inhibit growth of *C. albicans* and influence on decreased pathogenicity of this fungi.**

Ten strains of *C. albicans* were isolated from oral cavities of patients with chronic mycotic pharyngitis. The susceptibility of isolates was tested in 96-well microdilution method. Concentrations that are not toxic to fungal cells were tested for inhibition of biofilm formation activity. Level of reactive oxygen species (ROS) was tested with nitro blue tetrazolium assay. Commercial antifungal drug ketoconazole was used as positive control.

Results showed that all tested strains were more sensitive to AP7Glu than to apigenin. In particular, range of MICs and MFCs was 0.05 mg/mL - 0.10 mg/mL for AP7Glu, while treatment with apigenin resulted with MIC 0.10 mg/mL and MFC 0.20 mg/mL. Ketoconazole had lowest MIC values of 0.00156-0.00312 mg/mL and MFC 0.00624 mg/mL. All of the tested compounds had ability to inhibit formation of biofilm, ketoconazole for 80% (at MIC concentration), 73% (1/2 MIC) and 71% (1/4 MIC) while AP7Glu inhibits biofilm formation for 64% (MIC), 63% (1/2 MIC), 52% (1/4 MIC). Apigenin had lowest ability for inhibition of biofilm formation among the tested compounds; inhibited formation of biofilm for 59% (in cells treated with MIC concentration), 58% (1/2 MIC) and 59% (1/4 MIC). AP7Glu and apigenin in MIC concentrations induced decrease in level of ROS inside cells of *C. albicans* for 52% and 49% respectively, while ketoconazole showed no influence to level of ROS in fungal cells.

Compounds AP7Glu and apigenin are promising naturally occurring alternative to synthetic mycotics for treatment of *Candida. Albicans*. Although they have higher MIC and MFC values compared to ketoconazole, they both had good antibiofilm activity and proved to be highly effective in reducing intracellular ROS level that could subsequently lead to lower damage of host cells.

Situational Awareness and Human Factors in Otolaryngology: Lessons learnt from a Case of Orbital Cellulitis

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Introduction

With the time pressures faced by today's doctors, particularly in the emergency setting, acute conditions can easily be misdiagnosed. It is in such environments that situational awareness becomes increasingly important. Here we report an interesting case of a potentially sight-threatening complication of sinusitis that would have almost been overlooked were it not for the eavesdropper.

Case Presentation

A 12-year-old girl presented to the Emergency Department with a two-day history of swelling of the left upper eyelid associated with a frontal headache. She had been recently diagnosed with H1N1 influenza (swine flu) confirmed on PCR, for which she had been managed conservatively. Her past medical history was otherwise unremarkable. She was initially seen by a junior registrar who clinically examined her and discharged her with oral antibiotics for sinusitis.

Two days later the patient's mother telephoned the ED to report that her child was not showing any signs of improvement. The same registrar who had initially reviewed this patient was by chance present and decided to seek advice from the Paediatric registrar who agreed with the initial management plan and suggested continuing with oral antibiotics.

This conversation was overheard by an ED Consultant who suggested that the young girl should return to hospital for a review and to rule out orbital cellulitis. On repeat examination, the clinical impression was that of orbital cellulitis. A CT scan was carried out and revealed extensive left sided pan sinusitis complicated with involvement of the orbit and surgical drainage was performed. With intravenous antibiotics, the patient improved clinically and was discharged thereafter with oral antibiotics.

Discussion

Using this case as a platform, we draw on various other examples within otolaryngology, which highlight the importance of situational awareness, both within and outside of the operating theatre. We aim to increase awareness of the vital role of human factors in ENT Surgery, and how we can work in teams in order to optimise clinical care.

TASTE DISORDERS AFTER TONSILLECTOMY

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Purpose of the study. Research the possibility of developing taste disorders as a complication of tonsillectomy among patients of PSCUH's Otolaryngology Clinic.

Materials and Methods. A prospective study was conducted, involving patients who had undergone tonsillectomy and healthy people who had not undergone tonsillectomy as control group. An anonymous survey in the pre-operative period, on the second post-operative day and in the third week after operation was performed. Testing with chlorhexidine (0.025%; 0.05%), glucose (2%; 10%), citric acid (0.5%; 7.5%) and sodium chloride (0.5%; 2.5%) on the second post-operative day was also performed. The data obtained were statistically processed using IBM SPSS Statistics 22.0 software. The descriptive statistics and measurement of agreement Kappa Coefficient were used.

Results. 69 participants took part in the research: 49.3% (n=34) – the tonsillectomy group (average age 38 (SD=12.4)); 50.7% (n=35) – the control group (average age 29.8 (SD=15.2)). In both groups female/male ratio was about the same.

In the tonsillectomy group: 17.6% (n=6) of participants admitted subjective taste disturbances before the procedure (the main complaint was hypogeusia); 26.5% (n=9) had the same subjective complaints on the second post-operative day; 5 of them mentioned taste disorders also before tonsillectomy (Kappa=0.577, p=0.001).

Taste testing revealed taste disorders in 32.4% of the patients (n=11). In most cases the respondents incorrectly identified salty solutions as bitter or sour. Among those who had subjective taste disorders after the procedure, in 55.6% of the cases, taste testing detected taste disturbances (Kappa=0.295, p=0.083).

In the group of patients where taste testing revealed taste disorders, 36.4% (n=4) still had subjective complaints in the third post-operative week.

In the control group: 2.9% (n=1) of participants reported subjective taste disturbances (phantogeusia). Taste testing detected disorders (a reduced sense of the sweet taste) in 8.6% (n=3) of respondents, but additional factors, e.g. an upper respiratory infection recently, were present.

The analysis of other factors, which possibly could cause taste disorders, such as smell disturbances etc., showed no significant difference between respondents who had taste disorders and who did not have such (p>0.05).

Conclusions. Taste disorders are uncommon complications among patients who undergo tonsillectomy in PSCUH's Otolaryngology Clinic. Complaints about a disturbed sense of taste

are more likely to be connected with patients' previous taste perception problems rather than with tonsillectomy.

The ENT surgeries comparison of two university hospitals in Thailand and Japan

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We purposed to compare the numbers and procedures of the ENT surgeries of two university hospitals in Thailand and Japan. Then, we purposed to discuss the reasons of those differences.

We analyzed the all ENT surgeries of the year of 2013 and 2014 of the university hospitals of Thammasat University in Thailand and Nihon University in Japan. And we classified them in our category charts to compare the tendency of the surgeries.

The total number of surgeries were 1,603 cases in Thammasat University Hospital and 1,021 cases in Nihon University Hospital. The most three frequent surgeries in Thammasat University were tracheotomy, tonsillectomy and adenoidectomy. On the other hand, endoscopic sinus surgery, tympanoplasty and salivary gland operations were frequent in Nihon University. The number of thyroid operation was bigger in Thammasat Univ. than Nihon Univ. and the ear drum tube insertion and septoplasty were frequent in Nihon Univ. than Thammasat Univ.

The difference between the surgery data of two university hospitals seemed to occur according to the epidemiological tendency especially of infectious diseases among the ENT fields of them.

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SETTING UP AN HOSPITAL OTOTOLOGY ACTIVITY IN OUAGADOUGOU

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OBJECTIFS

Objet

- **Objectif principal : monter un secteur d'exploration fonctionnelle fiable**
- **Objectif spécifique : Pouvoir proposer des chirurgies de base avec un fort taux de réussite (myringoplasties, ossiculoplasties, cholestéatomes...)**

CONTENU DE LA PROPOSITION

Intérêt

- **Incidence élevée des pathologies de l'oreille**

Selon l'OMS, 360 millions de personnes dans le monde souffrent de déficience auditive incapacitante.

Les infections chroniques de l'oreille sont une cause majeure de la perte d'audition. Au Burkina Faso, les étiologies de la surdité étaient dominées par les otites et leurs séquelles (notamment l'otite moyenne chronique) dans 45,19% de l'ensemble des pathologies de l'oreille, selon une étude réalisée par ZAGHRE en 2004 dans le service d'ORL et de chirurgie cervico-faciale du CHU Yalgado Ouedraogo. Ces infections de l'oreille peuvent conduire à une perte auditive et peut entraîner de graves complications fonctionnelles (surdité), parfois mortelles. L'otite moyenne chronique peut largement être évitée. Elle peut être prise en charge de manière efficace par des moyens médicaux et chirurgicaux.

- **Leurs conséquences : la surdité**

Selon l'OMS, plus de 2 millions de personnes sont malentendantes.

Bien que les données épidémiologiques disponibles soient fragmentaires, la surdité constitue un véritable problème de santé publique dans le monde et singulièrement dans les pays en développement, notamment le Burkina Faso.

Une étude menée au Burkina Faso sur 10 ans en 2004 par ZAGHRE, avait noté 998 cas de surdité soit en moyenne 99,8 cas par an. En plus du mal qui les ronge, ces personnes souffrent le plus souvent de discrimination, de difficultés à l'insertion socio-professionnelle. Les enfants en payent le plus lourd tribut avec comme corollaire, le retard du développement psychomoteur et psychoaffectif de l'enfant, retardant l'acquisition du langage et compromettant ainsi les résultats scolaires.

Conformément aux recommandations de l'OMS, le fardeau de la surdité peut être réduit si des efforts sont faits au niveau international et si des programmes nationaux sont élaborés et mis en œuvre car 50% des causes de surdité sont évitables.

Un programme national de prévention de la surdité s'est alors imposé comme une nécessité au Burkina Faso. Il a été mis en place en 2002 dont le principal objectif était de réduire la prévalence des surdités. La surdité demeure une affection négligée en Afrique.

3D printed temporal bone cholesteatoma: a new model to bridge the gap between normal anatomy and real patient during surgical training.

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Purpose:

Otologic surgical training needs to start on normal temporal bone but real patient suffering from cholesteatoma present modification of surgical landmarks which make the surgery more difficult and more risky. Here we present a synthetic temporal bone cholesteatoma designed to bridge the gap between normal anatomy and real patient with cholesteatoma.

Material and Methods used:

The CTscan from a patient suffering from a cholesteatoma have been segmented for all bony landmarks and soft tissues. The segmented CT allowed to 3D print the bone and we used colored latex to create the soft tissues. The resulting artificial temporal bone cholesteatoma have been tested in four independent centers by experimented academic surgeons. The first objective was to evaluate the interest of this synthetic temporal bone cholesteatoma for resident training. The second objective was to compare the synthetic model with real patients. Using a seven-point Likert scale each independent surgeon evaluated the physical characteristics of the synthetic bone and soft tissues. They also evaluate the synthetic model compared with the corresponding CT scan.

Results:

Academic surgeon considered the synthetic model very interesting to train resident (rated 5/7) and would likely buy these model for a cost around 60 euros (5.25/7). The synthetic model correspond poorly to a real patient for the tympanic membrane (1.75/7) and for the visual aspect of the cholesteatoma (2.75/7). The results was fair for the squama inside the cholesteatoma (3.75/7) and good for the feeling during bone drilling (5/7). The model corresponds greatly to the CT scan provided regarding air cells in the mastoids (5.25/7), duramater (5/7), Semi-circular lateral canal (5/7), facial nerve (5/7), cholesteatoma localization (4.75/7) and respect of proportions (5/7).

Conclusion:

Synthetic temporal bone cholesteatoma is a very useful device for surgical training with a high fidelity for bone structure and corresponding CT scan. Soft tissues appear further from real tissues but are less important than ear ossicles, semi-circular canals or facial nerve during cholesteatoma surgical training. From this results a new model with silicone soft tissues have been developed and is currently evaluated by residents.

Cadaveric simulation helps fight the war against reduced hours of training

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Purpose of the study

European Working Time Directive (EWTD) has reduced training time which some consider critical in the “craft specialties”. Our School of Surgery has therefore developed an advanced simulation programme using Thiel soft-fix embalmed cadavers (TC). Unlike fresh-frozen tissues TC have an indefinite “life” (multiple simulations over time) and exhibit near-normal tissue elasticity. This study evaluates trainees’ opinions on their use for ENT surgical simulation.

Materials and Methods

Guided by 6-consultant faculty 8 TC were used by 16 ENT trainees (≥ST5). Tracheostomy, laryngectomy, neck dissection, thyroid lobectomy, submandibular gland excision and superficial parotidectomy were performed. Trainees scored their experience (5-point Likert scale: very poor, poor, satisfactory, very good, excellent) in 4 domains (up to 20 questions): tissue quality, procedural perception, identification of anatomy, construct validity and odour.

Results

Overall, the simulated procedures were rated very good or excellent by 77% of trainees. Trainee satisfaction (very good/excellent) with procedural perception (landmarks, incision/skin flaps, retraction, tissue planes, suturing) and identification of anatomy were high scoring areas (79% and 75% respectively). For tissue quality (dissection) the very good/excellent score was 67% although blood vessels and nerves were thought more difficult to identify by 2/16 trainees. Construct validity scored highly (83%) and was considered superior to formalin-preserved cadavers, bench-top and hi-fidelity virtual reality models. Odour was considered absent/mild by 80% of trainees. 1/16 awarded a “poor” score for one sub-domain but all trainees considered the skills acquired would improve future clinical practice.

Conclusion

Trainee positive response and TC quality offers a viable training modality enabling consultant-supervised training in advanced ENT operations. Future study is required assess the clinical relevant outcomes.

Authors and Affiliations

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Endoscopic Endonasal Surgery Simulator: How to assess surgical skills?

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Introduction

The interest of simulation for surgical training has been demonstrated, especially for endoscopic surgery. Its development requires (i) the creation of varied supports which encourage uptake and stimulate motivation of participants and (ii) the determination of standardized evaluation criteria.

We developed a training and assessment support for endonasal endoscopic surgery. The main objective of this study is to identify parameters discriminating the different levels of expertise, in order to assess the progression in the learning process. The secondary objective is to evaluate the pedagogical relevance of the proposed modules.

Material and methods

The Cyrano simulator is composed of a realistic support head which can move in the three planes of the space and which is a receptacle for pedagogic modules. Each module is tailored to the needs of the exercise (targets, hooks, realistic anatomical module ...).

Three groups were evaluated: novices, intermediates (residents) and experts (senior ENT surgeons). All received the same theoretical formation before using the simulator.

Four modules (Target, Displace, Dissect and Hard-boiled egg) were evaluated, exploring the following skills: image stability, focus management, instruments' movements and precision, work space management and speed.

The video analysis was blindly performed by two independent judges. The content validity of the module was assessed by the "expert" and "intermediate" participants on a 5-level Likert scale.

Results

Ten novices, 10 intermediates and 8 experts were included. For three modules (Target, Displace and Dissect), expertise level could be significantly assessed by at least one parameter. The content validity of the modules was considered as "perfectly" relevant for 3 modules (Target, Displace and Hard-boiled egg), and "fairly" relevant for the "Dissect" module.

TRAN-Sim-04

Everything but the squeal: Taking advantage of the swine anatomy.

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Purpose of the study:

There is no doubt that practicing skills leads to a better understanding and enhances the ability of the surgeon. We would like to present our ENT residents experience in the swine training model, illustrating a step by step tracheotomy in the pig and its utility as a training model.

There are a lot of similarities between the pig and the human being neck anatomy and airway. This procedure in the swine for training purposes has not been described before in the reviewed bibliography.

Materials and methods

Under the supervision of the laboratory Head of Service of our hospital, the staff members of our ENT service, and in agreement with the current regulations, our residents train neck surgical skills on a pig. We reuse a clinically death swine previously used in catheter embolization courses made by interventional radiologists, fully exploiting the resources and avoiding slaughtering the pig just for our objectives.

For this purpose, we previously studied comparative anatomy between the swine and the human being, finding enough similarities for our objectives such as tracheotomy and other cervical surgical approaches and used other models according to the Three Rs principles (Replacement, Reduction and Refinement).

Results/Discussion

The use of animals in medical education is as old as science despite presenting some ethical issues. The conflict presents between the suffering of the animal over the benefit of the scientist and the patient.

Nowadays, medical skill training is increasingly based on simulation. In this regard, the swine has demonstrated being a useful model in different contexts, including in the airway management.

Conclusions:

There are no previous studies with a comprehensive study of comparative anatomy between the swine neck and human being but we found in it a great model for training tracheotomy performance.

Scientific evaluation of materials for endonasal skull base surgery simulation : a geometric and mechanical study.

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Introduction. Endoscopic skull base surgery allows minimal invasive therapy through the nostrils to treat infectious or tumorous diseases. Surgical education in this field is limited by the lack of validated training models in terms of geometric and mechanical accuracy. We choose to evaluate several materials to create a 3D printed skull base model for surgical training. **Methods.** Four 3D printed materials were evaluated compared with human cadaver bone: calcium sulfate hemihydrate (named Multicolor), polyamide (PA), resin and polycarbonate (PC). Properties compared were geometric accuracy, forces required to break thin walls of materials, forces and energy required during drilling. **Results.** All materials had an acceptable global geometric accuracy (from 0.083mm to 0.203mm of global error). Local accuracy was better in PC (0.09mm, 0,7% error) and PA (0.15mm, 1,2% error) than in Multicolor (0.90mm, 7,2% error) and resin (0.86mm, 6,9% error). Resin and PA thin walls were not broken with surgical suction tip. Forces needed to break Multicolor thin walls were 1.6-3.5 times higher than in human bone. For PC, forces applied were 1.6-2.5 times higher. Resin and PA did not break at 200N. Energy spent for drilling bone was 30.66 N.mm, 11.94 N.mm for Multicolor, 19.16 N.mm for PC, 46.73 N.mm for resin, while PA melted during drilling. **Discussion.** To the best of our knowledge, this work is the first attempt to quantitatively validate the use of 3D-printed material for skull base surgery simulation. Mechanical evaluation of materials for surgical simulation is essential because of the need for trainees to not apply aberrant forces in the operative room in order to prevent serious iatrogenic injuries. Mechanical tests were done with surgical tools and represent real gesture in endonasal skull base surgery. Cadaverous bone mechanical evaluation could not be extrapolate in vivo, because of the conservation methods (multiple freezing and defrosting for the experiments), and a possible embrittlement of samples inherent in collecting technique on cadaver which is not at all feasible in a living patient. **Conclusion.** PC was validating as a good substitute of human cadaver bone for skull base surgery simulation. PC allows creation of precise skull base model for pre-operative surgical training and education. We are convinced it leads to improved patient safety. Future works are needed to evaluate and add soft tissues for a better realistic model. In vivo bone mechanical evaluation will be done too to precise real forces applied on patient during surgery.

Septoplasty training using sheep head simulation model

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Aim: The sheep head septoplasty model has been described in the literature as a fitting simulation for training junior otolaryngologists in the principles and practical steps of performing a Septoplasty.

Background: Septoplasty is a very common operation performed by both the junior and senior Otolaryngologist. The confined space of the nose and anatomical variations of the septum, makes this procedure difficult to teach.

A publication from the Royal College of Surgeons England, by Gupta et al, published in 2015, surveyed Otolaryngology trainees, about their preparedness for undertaking a Septoplasty as a main surgeon

More than 40% of respondents felt unprepared to undertake their first Septoplasty as a main surgeon.

Method: We have developed a one day simulation dissection course aimed at teaching junior surgeons all the steps of a septoplasty using a mix of lectures, demonstrations and hands on sheep head dissection

Participants: Junior otolaryngology trainees

Evaluation of course aim: Assessed with a pre and post course questionnaire.

This presentation will include a short video of the types of dissection possible using the sheep head model, a summary of participants before and after self rating of competencies in performing a septoplasty, and a cost analysis related to training junior surgeons in performing independent septoplasties.

Toward a better understanding of the electrical anatomy of the human cochlea: effects of stimulation mode

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Introduction:

One factor that contributes to speech-perception outcomes in cochlear implant users is the selectivity of stimulation provided to the cochlea. Arguably the outcome improvement attributable to the transition from single-channel to multi-channel cochlear implants remains one of the field's greatest achievements. However, despite numerous attempts to redesign electrodes, it can be argued that, apart from improved residual hearing preservation, a comparable quantum leap in outcomes attributable to electrode-array or stimulation technology has not been observed since the earliest multi-channel designs. It is hypothesized that an improved and individualized understanding of the electrical anatomy of the cochlea in conjunction with the underlying spiral ganglion characteristics may provide information useful in optimizing stimulation modalities leveraging multi-channel electrodes in the scala tympani.

Objective: Here we will present modeling estimates and empirical measurements from a human cadaver suggesting that it may be possible to further improve transfer of information to the nerve with existing technologies.

Methods:

A three-dimensional (3-D) parametric model incorporating estimated tissue resistivities and 200 evenly distributed nerve fibers was used to compute the electric potential distribution and neural excitation patterns of the human cochlea in response to electrical stimulation. The model was constructed in a manner that can be "parametrically-tuned" to fit individual anatomies. Micro CT data was obtained from human cadavers implanted with a modern multi-channel cochlear implant with the array located in the scala-tympani of the cochlea and electrical potential measurements were made in-situ. The models were then tuned to the experimental anatomies and the experimental results were compared with those predicted by the model based on the same anatomy.

Results:

The 3-D model was highly correlated with measures in the in-situ cadaver head. Adapting the parameters of the model to the specific anatomy reduced the error in field potential recording on average by about 20%. Different stimulation modes were tested and electric field potential for each of them showed different patterns in terms of spread of excitation.

Conclusions:

To the extent that electric field gradient measures can be indicative of neural excitation patterns, individualized models based on imaging data may provide information about program optimization. Electrophysiological measures in live human subjects where detailed imaging data is available is required to further validate the model.