

Day 1 : January 23rd 2017

10.30 am -11.00 am - Registration

11.00 am -11.20 am - Inaugural session

11.20 am -11.30 am - Group photo



Keynote Forum

11.30 am -12.00 pm - Dr. Charles Sia

12.00 pm-12.30 pm - Dr. Sunil Kumar Rout

12.30 pm - 12.45 pm - **Coffee Break**

Session Introduction

12.45 pm - 01.15 pm --- Oral Presentation by **Nuwan Dharmawardana**
Topic :- Management of Secondary Post-Tonsillectomy
Haemorrhage – Flinders Experience

01.15 pm - 02.15 pm --- **Lunch Break**

02.20 pm - 02.50 pm --- Oral Presentation by **Stephen Kao**
Topic :- Survival outcomes following salvage surgery for
oropharyngeal squamous cell carcinoma

02.50 pm - 03.20 pm --- Oral Presentation by **Shahid Ali Shah**
Topic :- Pharmacological treatment of Chronic Rhinosinusitis – an
underestimated option

03.20 pm - 03.50 pm --- Oral Presentation by **Se-Hyung Kim**
Topic :- Comparison between objective and subjective benign
paroxysmal positional vertigo: clinical features and outcomes

03.50 pm - 04.00 pm --- **Vote of Thanks**

04.00 pm - 04.10 pm --- **Feedback**

04.10 pm - 04.20 pm --- **Coffee Break**

--- **DAY 1 END** ---

ENT - 2017

International Symposium on ENT Disorders and its Remedies



at
Singapore on January 23rd-25th, 2017

KEY NOTE FORUM

International Symposium on ENT Disorders and its Remedies

23rd – 25th January 2017, Singapore

Sunil Kumar Rout

Director - Kalinga Craniofacial Center
Kalinga Hospital, India

A Simple Algorithm for Surgical Treatment of Facial Fractures Affecting Dental Occlusion

Facial fractures are encountered these days with increasing frequency. The reason for this obviously is increasing use of the speeding motor vehicles (especially motor bikes in India). Most of these fractures affect dental occlusion and their surgical treatment is always aimed at achieving normal occlusion along with optimal osteosynthesis.

We analysed all the facial fracture cases received surgical treatment in our hospital from April 2009 to December 2015. A total of 255 cases were studied out of which 126 had fracture of mandible, 91 had maxilla, 50 zygoma, 31 nasoethmoid and 19 fracture of frontal bone. Out of them 213 patients had fractures those affected occlusion. The treatment included semirigid fixation with miniplates or lag screws, rigid fixation and IMF for 2 weeks followed by 4 weeks of elastics application, We compared the outcome in terms of occlusion, implant infection and neurological complications. Special emphasis was given to the patients having fracture of mandible and maxilla, affecting occlusion. We came across a wide range of fractures involving both these skeletal elements. Every patient was followed up for a minimum period of six weeks. Based on our clinical findings we drew an algorithm for surgical treatment of these fractures. This algorithm has been useful for us in decision making as well as to have satisfactory outcome. We recommend the same to be adopted by the surgeon community managing these cases.

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ENT - 2017

International Symposium on ENT Disorders and its Remedies



at
Singapore on January 23rd-25th, 2017

ACCEPTED ABSTRACTS

International Symposium on ENT Disorders and its Remedies

23rd – 25th January 2017, Singapore

Stephen Kao

Flinders Medical Centre, Australia

Survival Outcomes following Salvage Surgery for Oropharyngeal Squamous Cell Carcinoma: A Systematic Review

Recurrent oropharyngeal squamous cell carcinoma (OPSCC) causes great morbidity and mortality. This systematic review analyzes survival outcomes following salvage surgery for recurrent OPSCC.

Methods: Comprehensive search strategy was conducted across various electronic databases. Studies included patients with recurrent or residual OPSCC treated with salvage surgery. Primary outcomes were survival rates following salvage surgery. Secondary outcomes include time to recurrence, staging at time of recurrence and factors associated with mortality and recurrence. Methodological appraisal and data extraction was conducted as per the Joanna Briggs Institute methodology.

Results: Eighteen articles were included. The 2- and 5-year survival rates of these patients were 52% and 30% respectively.

Conclusions: Improvements in treatment modalities for recurrent OPSCC demonstrated improvement in 2-year overall survival rates with minimal change to 5-year overall survival rates. Various factors were identified to be associated with long-term overall survival, thus assisting clinicians in patient counseling and selection for salvage surgery.

Biography:

Stephen Kao a surgical resident from Adelaide South Australia. He has a keen interest in head and neck oncology and has completed a Master's degree reviewing the swallowing outcomes in patients with oral or oropharyngeal cancer following treatment.

International Symposium on ENT Disorders and its Remedies

23rd – 25th January 2017, Singapore

Stephen Kao

Flinders Medical Centre, Australia

Scoping Review of Pediatric Tonsillectomy Quality of Life Assessment Instruments

Sleep disordered breathing or recurrent tonsillitis have detrimental effects on the child's physical health and quality of life. Adenotonsillectomies are commonly performed to treat these common conditions and improve the child's quality of life. This scoping review aims to present a comprehensive and descriptive analysis of quality of life questionnaires as a resource for clinicians and researchers when deciding which tool to use when assessing the quality of life effects after adenotonsillectomy.

Data Sources: A comprehensive search strategy was undertaken across Medline (Pubmed), CINAHL, Embase and Cochrane CENTRAL.

Methods: Quality of life questionnaires utilized in studies investigating pediatric patients undergoing tonsillectomies for chronic tonsillitis or sleep-disordered breathing were included. Methodological quality and data extraction was conducted as per Joanna Briggs Institute methodology.

Results: Ten questionnaires were identified, consisting of six generic and four disease-specific instruments. The OSA-18 was the most commonly utilized questionnaire.

Conclusion: This review identified a range of generic and disease-specific quality of life questionnaires utilized in pediatric patients who have undergone tonsillectomies with or without adenoidectomies for sleep disordered breathing or chronic tonsillitis. Important aspects of each questionnaire have been summarized to aid researchers and clinicians in choosing the appropriate questionnaire when evaluating the quality of life effects of tonsillectomy.

Biography:

Stephen Kao a surgical resident from Adelaide South Australia. He has a keen interest in head and neck oncology and has completed a Master's degree reviewing the swallowing outcomes in patients with oral or oropharyngeal cancer following treatment.

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Charles P. Sia, DMD, PDipDS(OS), MDS (OMS)

Chariman, Department of Oral and Maxillofacial Surgery
Gullas Medical Center, University of the Visayas Mandaue City, Philippines

Conservative Treatment Protocol for Ameloblastoma of the Mandible

In retrospect, it is well understood and proven in clinical studies that Ameloblastoma is well renowned due to its high recurrence rates on enucleation alone while it has also been well documented with certain treatment options mostly concentrating to wide resections resulting in mandibular defects. Although at this moment, the pinnacle of jaw reconstruction has been well established and continually improving with the advent of vascularized flaps and growth factors, most regions require further development with regards to team protocols, equipment, healthcare coverage, and most importantly experience of microvascular surgeons. Ideal mandibular reconstruction requires complete bone restoration with contour and an emphasis on facial esthetics and future occlusal function restored by endosteal implants. This presentation will share our experience with combined surgical and medical treatment protocol applied for all types of Ameloblastoma cases treated in our centers highlighting the preservation of the mandible particularly on large tumors ideally treated by mandibulectomy.

Biography:

Dr. Sia is the Chairman of the Department of Oral and Maxillofacial Surgery at Gullas Medical Center – University of the Visayas and a Consultant in Oral and Maxillofacial Surgery at St. Luke’s Medical Center – Global City, University of Cebu Medical Center, Chong Hua Hospital Group and Cancer Center, and the Craniofacial Foundation of the Philippines. Currently, he holds the position as Vice President of the Philippine Association of Oral and Maxillofacial Surgeons and is a Clinical Assistant Professor of the Department of Oral Surgery and Oral Medicine at Cebu Doctors’ University. He was appointed as the International Relations Officer for the Philippines of the Young Oral and Maxillofacial Surgeon Group of Hong Kong.

Dr. Sia obtained his Bachelor’s Degree from Cebu Doctors’ University, Postgraduate Diploma in Oral Surgery, and Master’s Degree in Oral and Maxillofacial Surgery at the University of Hong Kong. He was a recipient of the Clinical Fellowship grant by Arbeitsgemeinschaft für Osteosynthesefragen (AO) Craniomaxillofacial Foundation at the Department of Oral and Maxillofacial Surgery in Peking University School and Hospital of Stomatology. He is a Fellow of the International Association of Oral and Maxillofacial Surgery and a member of the Asian Association of OMS, International College of Maxillofacial Surgery, International Cleft Lip and Palate Foundation, and International Congress of Oral Implantologists.

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Nuwan Dharmawardana

Management of Secondary Post-Tonsillectomy Haemorrhage – Flinders Experience

Tonsillectomy is a routine otolaryngology procedure that can have potentially life threatening complications. Secondary post-tonsillectomy haemorrhage (PTH) is the most common severe complication of tonsillectomy. Literature reports the rate of secondary haemorrhage to be between 2% and 10% and various reasons are attributed to their cause. However, only a limited number of studies report the management of such events and their outcomes for these patients. Here we introduce a protocol for the management of secondary post-tonsillectomy haemorrhage to standardise treatment and aim to identify factors causing re-admissions and the need to return to theatre. We also report the experience at Flinders Medical Centre (FMC) comparing the effects before and after the introduction of a PTH management protocol. FMC treats patients with PTH from their own institute as well as other public and private institutes in South Australia.

Methods: Electronic patient records of presentations with secondary PTH between January 2011 to May 2015 were retrospectively analysed. We recorded multiple variables including: Patient demographics, Length of stay (LOS), Stammberger grade on presentation, management grade, number of representations to hospital, return to theatre, post code of patient and the consultant they were admitted for that encounter. We utilised Kendall non-parametric correlation co-efficient values to identify any statistically significant correlations. Mann-Whitney-U test was utilised for two sample comparison and Cochran's Q test for multivariate analysis.

Results: FMC had encountered 274 patients with PTH with 38 (14%) of these patients representing with PTH to the same institute or another public hospital in the Adelaide metro area. 69 (25%) of the patients with secondary PTH returned to theatre in their first or subsequent presentations with PTH. Average age of these patients were 19 years old with 125 (46%) paediatric patients. Gender distribution was largely equal with 47% female patients. The initial Stammberger grading correlated with LOS and the need to return to theatre. Where patients with high initial Stammberger grade invariably returning to theatre ($p < 0.01$) and a low Stammberger grade allowed for early discharge of patients ($p < 0.01$). Cases that were re-admitted also correlated with returning to theatre ($p < 0.01$). When comparing pre and post protocol samples, the LOS was significantly less (27 hours compared to 36 hours) after the implementation of the PTH protocol. Other parameters were not statistically significant between the comparison groups.

Conclusion: FMC is a large tertiary hospital that encounter PTH as a common presentation. Accurate assessment of initial bleeding episode and Stammberger classification determines appropriate treatment. Introduction of a PTH management protocol reduces length of stay without significantly affecting re-admission or return to theatre rates. Therefore, we encourage the use of a PTH protocol in hospitals where PTH is a common presentation, that leads to safer patient care with effective use of hospital resources.

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Chih Fang Lee

Towards Implementation of Virtual Surgery for Patient with Chronic Nasal Disease

Advancement in Computational Fluid Dynamics (CFD) allows better observation of human nasal airflow and opens up various opportunities for treatment planning. The application of CFD was used to construct a numerical simulation of nasal airflow for pre and post virtual surgery. This research focuses on performing virtual surgery on pre-operation nasal cavity model of patient with chronic sinusitis and compare and evaluate the effects of virtual surgery on the patient's nasal airflow. The differences for pre and post-operation condition of the patients can be discussed and observed via CFD simulations. A disease subject with chronic sinusitis was selected and CFD technique were then applied to construct a three-dimensional nasal model based on CT scans. A virtual surgery was performed numerically on the disease model using CATIA V5 software. The results and effects of surgical treatment on the nasal airflows were analyzed. Pre and post-operation and virtual operation condition of patient can be studied through various data collected such as cross sectional area, average velocity magnitudes, pressure drop, velocity contours and streamlines. The virtual operation was then compared with pre-operation, post-operation and standardized model. The analysis of the virtual operation shows reasonable result as the pressure drop and average velocity magnitude match quite closely with standardized model with the differences of around 30% at middle region. The findings highlight the potential usefulness of CFD-generated numerical simulation as a pre-operative tool to help in clinical decision making.

International Symposium on ENT Disorders and its Remedies

23rd – 25th January 2017, Singapore

Itzhak Braverman

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Top Closure® Tension Relief System, an External Skin Stretching Device for Substitute of Skin Flaps and Grafts for Head & Neck Applications

Excision of head and neck tumors often result in skin defects that cannot be primarily closed. The need for tension-reduction during wound closure has been addressed by various stretching devices designed to harness the visco-elastic properties of skin. TopClosure® tension relief system (TRS) is a novel device that is used for secure wound closure. It applies controlled, incremental, evenly-distributed vector-tension to gradually stretch the skin and close skin defects.

Objectives: To evaluate the clinical effectiveness of TopClosure® TRS for controlled, skin stretching as a substitute for skin grafts and flaps after excision of head & neck tumors and trauma.

Methods: We report a retrospective series of patients following resection of scalp tumors, surgical defects and trauma resulting with moderate to large size skin defects that otherwise would have required reconstruction with skin grafts, flaps, or tissue expanders. TopClosure® TRS was applied for intraoperative cycles of stress-relaxation, followed, when indicated, by additional steps of mechanical creep and scar secure.

Results: Skin defects, were managed by TopClosure® TRS, enabling, primary closure in all wounds. Immediate wound edge approximation was reached through stress-relaxation by heavy tension sutures during surgery. When indicated, skin stretching by mechanical creep was performed, achieving staged primary closure in an outpatient setting. TopClosure® TRS was further applied to secure the skin for up to 3 weeks following surgery.

Conclusions: The TopClosure® TRS, effectively, aided closure of moderate and large scalp defects by stress-relaxation and mechanical creep and serving as a topical tension-relief platform for tension sutures, allowing mobilization of skin and subcutaneous tissue without undermining or need of drainage, for early, direct wound closure. Local complications were minimal and donor site morbidity was eliminated. Surgical time, hospital stay and costs were reduced, and post-operative wound aesthetics were improved.

Biography

Dr. Topaz is one of the developers of the TopClosure® and is the Chairperson of I.V.T Medical Ltd. manufacturing the device.

International Symposium on ENT Disorders and its Remedies

23rd – 25th January 2017, Singapore

Itzhak Braverman MD.,

Otolaryngology Head and Neck Surgery Unit; HilleYaffe Medical Center. Faculty of Medicine, Technion-Israel Institute of technology

The Value of Drug-Induced Sleep Endoscopy for the Treatment and Tailoring Surgery for Patients with Snoring and Obstructive Sleep Apnea

Drug induced sleep endoscopy (DISE) is increasingly performed procedure, offering dynamic upper airway evaluation during artificial sleep before surgical treatment for patients with obstructed sleep apnea (OSA).

Aim: To evaluate the value of DISE for tailoring the proper treatment for patients with snoring and OSA.

Methods: Retrospective, single surgeon, 43 patients, 6 women and 37 men (23-74 years), with snoring and OSA, underwent DISE before deciding on the surgical treatment. DISE findings were reported using the NOHL and VOTE classifications systems; site, degree of airway narrowing and configuration of obstruction were reported. Patients underwent tailored surgery based on DISE findings included multi-level surgery; palate, tonsils, base of tongue and epiglottis.

Results: The obstruction and apnea was mainly at the velum 97.6%, oropharynx 55.81%, in combination with other structures, usually base of the tongue 65.11% and epiglottis 6.97%.

After using DISE, the surgical treatment that was tailored included CAUP- Coblation Upper Airway Procedure for palatal level with or without tonsillectomy, endoscopic coblation base of tongue reduction and partial epiglottectomy. The results showed improvement of snoring and OSA severity in most of the patients. 14 patients completed secondary PSG around 6 months post operatively presenting 46% average RDI improvement. In a subgroup, super-responders (RDI change greater than 50%), 9 patients achieved average RDI reduction of 71%. Some patients are pending postoperative PSG.

Conclusions: DISE is a safe procedure, easily practicable, valid and reliable. We, therefore, consider it a fundamental clinical procedure that is essential before choosing the surgical treatment. Our results suggest that a multilevel collapse is significantly associated with higher apnea hypopnea index values. We think that the weight did not play a significant role in RDI reduction. Our results show tailored surgery based on DISE may leverage sleep surgeries outcome significantly presenting 70% success rate based on our experience.

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Se-Hyung Kim

Comparison Between Objective and Subjective Benign Paroxysmal Positional Vertigo: Clinical Features and Outcomes

To examine differences in demographic and clinical features, as well as treatment outcomes, between O-BPPV and S-BPPV.

Methods:The medical records of 134 patients with BPPV were reviewed for demographic characteristics, past medical history, associated symptoms, response to CRMs, interval between symptom onset and the first medical visit, and recurrence rate. The O-BPPV group (n¼101) comprised patients who experienced vertigo and accompanying autonomic symptoms, and showed typical nystagmus. The S-BPPV group (n¼33) comprised patients who, when subjected to a provoking manoeuvre, showed all of the classic BPPV symptoms but did not show nystagmus. All patients had at least 3 years of follow-up.

Results:The demographics (age and sex ratio), past medical history, and associated symptoms were not significantly different between the two groups. Posterior semi-circular canal BPPV appeared more than twice as often as horizontal semi-circular canal BPPV in patients with S-BPPV. However, both canals were affected to a similar proportion in patients with O-BPPV, and the difference was marginally significant (p¼0.073). Overall improvement was better in O-BPPV than in S-BPPV; however, there was no significant difference. The total numbers of manoeuvres for recovery and the interval between symptom onset and the first medical visit also did not show any significant inter-group differences. During a 3-year follow-up, the recurrence rate was 13.8% for O-BPPV and 21.2% for S-BPPV.

Conclusions:Objective benign paroxysmal positional vertigo (O-BPPV) and subjective BPPV (S-BPPV) have similar demographic and clinical features. Canalith repositioning manoeuvres (CRMs) can be an effective treatment for patients with S-BPPV, and a diagnosis of positional nystagmus is not essential for considering CRMs. This study supports the use of CRMs as the primary treatment for S-BPPV.

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Anupam Mishra

Current Trend of Clinical/ Molecular Behaviour of Juvenile Nasopharyngeal Angiofibroma In North India

Juvenile nasopharyngeal angiofibroma (JNA) constitutes about 0.5% of all head and neck tumors but our institute is known for the largest contributions for JNA across the globe and we have currently witnessed a four-fold increase in the incidence. The past literature suggests a wide variation in clinical parameters and etiopathogenesis of JNA while the current picture is rapidly evolving with differing clinical and molecular behaviour. This presentation is an attempt to throw some light on the same.

Methods: The molecular estimation (9–24 samples) included the quantification of mRNAs expression through real-time polymerase chain reaction, for VEGF-A, b-FGF, PDGF-A, c-Kit, c-Myc, H-Ras, TP53, androgen receptor (AR) and IL-6. The b-catenin expression was evaluated by western blot in another 16 samples. Nasal polyp was taken as control. The clinical-molecular correlation was done by comparing the possibility of specific clinical phenotypes associated with enhanced (or under-) expression of molecular marker.

Results: A massive enhancement of H-Ras expression was seen for the first time while a significantly increased ($P < 0.01$) expression of VEGFA, bFGF, c-myc, c-kit, PDGF, and TP53 was seen, along with enhanced expression of b-catenin. AR expression was no different, while IL-6 showed insignificant upregulation. The clinical-molecular correlation characterized some specific clinical phenotype associated with enhanced (or under-) expression. For example, absent beta-catenin expression was seen exclusively in over 18 years, while enhanced expression was associated with an altered facial profile.

Conclusion: The upregulation of respective markers suggest their potential role although the biological significance of c-kit, c-myc, and one of the novel markers H-Ras has yet to be defined. With further validation a better understanding of molecular mechanisms and their correlation may help in predicting clinical behaviour, explaining the enhancing incidence and suggesting molecular targets. This presentation summarizes the current molecular behaviour and correlates clinical presentation of JNA.

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Shahid Ali Shah

Pharmacological treatment of Chronic Rhinosinusitis – an underestimated option

Chronic Rhinosinusitis is one of the more prevalent clinical conditions, affecting all age groups and both genders, worldwide. There is inflammatory process involving the mucosa of the nasal cavity and the paranasal sinuses persisting for more than twelve weeks. Secondary infection with bacteria and fungus is not uncommon. The condition may present with or without nasal polyps. Common presenting features are nasal obstruction, decreased smell sensation, loss of taste sensation, facial pressure or pains and headaches. Persistent symptoms with acute exacerbations is typical. Condition is primarily treated with medicines but when refractory, surgical treatment is the ultimate solution. Pharmacological treatment is targeted to control the inflammation and secondary infection. Alternatively, surgical treatment excises the irreversibly diseased mucosa to achieve adequate drainage and ventilation of the paranasal sinuses leading to regeneration of healthy mucosa, once the etiological factor is eliminated. Surgical treatment has evolved over the years from radical, open sinus surgery to more conservative, endoscopic sinus surgery. Owing to its novelty and many other factors, endoscopic sinus surgery has been so much over rated and exercised that pharmacological treatment option has lost its importance as an effective mode of treatment in Chronic Rhinosinusitis. This prospective clinical study was designed to study the efficacy of pharmacological treatment in Chronic Rhinosinusitis. Cases of Chronic Rhinosinusitis with and without nasal polyposis, who had been advised surgical treatment option following a variable period of different medical treatments, were included. Patients with previous history of sinus surgery, Aspirin sensitivity, fungal rhinosinusitis and Asthma were excluded. Pharmacological treatment protocol comprising long term antibiotic, corticosteroids, topical and systemic, along with nasal irrigation with topical normal saline and other symptomatic treatment, was successful in more than half of the patients observed over a period of twelve to eighteen months as regards eradication of disease and thereby avoiding surgery. It was concluded that pharmacological treatment has been underestimated and still has effective role in the treatment of Chronic Rhinosinusitis thereby avoiding surgery in a significant number of cases and hence reducing the morbidity and improving the cost effectiveness.

Key words: Chronic Rhinosinusitis, Pharmacological treatment.

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Cost analysis of Injection Laryngoplasty under Local Anaesthesia versus General Anaesthesia: An Australian Perspective

To evaluate the cost analysis of injection laryngoplasty (IL) conducted in the operating theatre (OT) under local anaesthesia (LA) and general anaesthesia (GA)

Study Design: A retrospective cost analysis

Methodology: Patients who underwent ILs as day cases between July 2013 and March 2016 were identified from theatre records. Patient demographics, anaesthetic details, ASA score, length of stay, total operating room (OR) time and surgeon procedure time were obtained from case records and the theatre database. Cost analysis was performed using the Power Performance Costing Software. Multiple linear regression models and t-tests ($P < 0.05$) were used to compare cost variables between GA and LA.

Results: A total of 20 cases (GA=6, LA=14) were included in the cost analysis. The mean total cost of IL under GA was significantly higher than LA (Mean Difference (MD) = \$1134.34, Standard Error (S.E) = 228.73, $p < 0.01$). Both direct and indirect OR costs were significantly higher under GA, with a

mean difference of \$678.08 and \$132.79, respectively. The mean OT time, surgeon procedure time and length of stay were all significantly lower when performed under LA compared to GA. Multiple linear regression models reported time variables such as OT time and length of stay as the most significant predictors of the total costs.

Conclusion: Procedures performed under LA in the OT have shorter OT time and length of stay in the hospital and provide significant savings in patient related costs within the Australian health system. Further savings would be expected if ILs were performed in an office setting.

Keywords: Injection laryngoplasty, cost analysis, office based laryngeal surgery, microlaryngoscopy, Restylane™, Perlane™

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David Watson

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Roger Yazbeck

Flinders Medical Centre, Department of Otorhinolaryngology and Head and Neck Surgery

Can We Detect Head and Neck Cancer in Breath?

To develop a unique, non-invasive, breath test that could be used for the early detection of HNSCC.

Methodology: The patients were recruited from the Department of Otorhinolaryngology, Head and Neck Surgery at Flinders Medical Centre, South Australia. Exhaled, alveolar breath samples were collected into FlexFoil® PLUS bags from newly diagnosed, histologically confirmed, patients with: HNSCC, benign lesions and healthy controls. Patients were fasted for six hours prior to breath collection. Breath samples were immediately analysed by Selected Ion Flow Tube-Mass Spectrometry (SIFT-MS) to quantify VOCs previously associated with HNSCC. Breath $^{13}\text{CO}_2$ was quantified using isotope ratio mass spectrometry, and breath hydrogen (H_2) and methane (CH_4) was quantified by a QuinTronBreathTracker®. Data is expressed as mean \pm SEM.

Results: Breath samples were obtained from patients with HNSCC (N=10), benign lesions (N=5) and healthy controls (N=4). The mean patient age was 62y (range, 44-88). Breath $^{13}\text{CO}_2$ and methane was higher in the HNSCC group ($25.34 \pm 0.31\text{ppm}$, $22.60 \pm 6.10\text{ppm}$) compared to the healthy controls ($22.20 \pm 1.50\text{ppm}$, $17.00 \pm 12.4\text{ppm}$).

Conclusion: This promising preliminary data will underpin ongoing and future patient recruitment and sample collection. These compounds and other new HNC specific compounds from the ongoing mass scan analysis could lead to the development of a rapid, minimally invasive tool.

International Symposium on ENT Disorders and its Remedies

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Oncogene Abnormalities in a Series of Primary Melanomas of the Sinonasal Tract: NRAS Mutations and Cyclin D1 Amplification are more Frequent than Kit or BRAF Mutations

Primary malignant melanoma of sinonasal tract (PMMST) is a rare but severe form of melanoma. We retrospectively analyzed 17 cases and focused on the histological presentation, the expression of c-Kit, EGFR, cyclin-D1/Bcl-1, PS100 and HMB45 and searched for BRAF, NRAS and KIT mutations that are known to be associated with melanoma subtypes, together with amplifications of KIT, CCND1, CDK4, MDM2 and MITF using quantitative PCR. In the majority of cases (78%), an in situ component was evidenced. Invasive components were composed of diffuse areas of rhabdoid, epithelioid or spindle cells, and in most cases lacked inflammatory reaction, suggesting that an immune escape phenomenon probably develops when the disease progresses. EGFR was rarely and weakly expressed in the in situ component of 2 cases. None of the investigated case showed BRAFV600E, but one had a D594G mutation. NRAS mutations in exon 2 (G12D or G12A) were found in 3 cases (18%) and a KIT mutation in exon 11 (L576P) in one, while C-Kit was expressed at the protein level in half cases. Amplifications of CCND1 were evidenced in 5 cases, confirmed in 3 by FISH studies, but this was not always correlated with protein expression, found in 8 patients (62.5%), 3 having no significant amplification. In conclusion, PMMST are not associated with BRAFV600E mutations. Instead, NRAS or KIT mutations and CCND1 amplification can be found in a proportion of cases, suggesting that PMMST are heterogeneous at the molecular level and should not be sensitive to therapeutic approaches aiming

at BRAF. Further studies are needed to determine whether cases associated with NRAS or KIT mutations or CCND1 amplifications may benefit from specific targeted therapies, together with the identification of new oncogenes in cases where no specific alterations could be identified. Also, longitudinal studies are needed to determine whether these molecular abnormalities have prognostic implications.

International Symposium on ENT Disorders and its Remedies

23rd – 25th January 2017, Singapore

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A Retrospective Analysis of the Successful Insertion of Osseointegrated Implants (OI) to Support Facial Prosthesis in Head and Neck Cancer Patients.

A retrospective analysis was made of 53 consecutive Head and Neck Cancer patients with respect to the success rate of Osseo-Integrated Implant (OI) insertion for support of facial prostheses.

Methodology: OI's were inserted into either native or graft bone depending on the type of Head and Neck surgical resection and reconstruction. Successful OI insertion was classified as successful when the OI integrated into bone and did not requiring removal. Progression to supporting a facial prosthesis was analysed. Statistical analysis was performed using Stata/MP version 13.0 for Mac (StataCorp LP). The Kaplan–Meier method was used to estimate the survival of implants following placement. Photographic examples are presented.

Results: 53 consecutive Head and Neck Cancer patients underwent OI insertion between July 2009 and August 2016 by a single dental surgeon. A total of 142 OI's were inserted. The most frequent location for OI insertion was the native mandible (38.02%), followed by the native maxilla (21.13%).

Cumulative Implant Survival plateaued at 78.3% from 36 months post resection onwards (95% CI 59.7-89.0). The timing of implantation; whether immediate vs delayed vs after radiotherapy had no significant impact on the time to implant failure ($p=0.9028$). 46 (86.8%) patients with OI's successfully supported a facial prosthesis. The most common prostheses were 27 dental (57.44%), 12 nasal (25.53%) and 6 eye (12.77%).

Conclusion: Life style and emotional wellbeing post radical Head and Neck Cancer surgery is an important factor for the surgeon to take into consideration. This study demonstrated both a high OI success rate, and support of facial prostheses in Head and Neck Cancer Patients, allowing for important cosmetic and functional benefits.

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Safety And Efficacy of Oxycodone in 748 Paediatric Tonsillectomies

There is no consensus regarding the optimal analgesia regimen for paediatric tonsillectomy. All agents have potential disadvantages and there remains a significant rate of inadequate analgesia leading to unplanned medical review or readmission in published studies.

Methods: Our study is a retrospective analysis of the safety and side effects of a single rural surgeon's use of PRN oxycodone in post-operative tonsillectomy paediatric patients. In the majority of cases, the main indication for tonsillectomy was snoring or obstructive sleep apnoea. All carers received education regarding the use and side effects of oxycodone. Patients were assessed for adequacy of analgesia and opioid side effects during admission and with follow up nurse calls at days 1 and 7 post-operatively and with medical review at 4 weeks.

Results: A total of 748 tonsillectomies were performed in 0-15 year olds between June 2008-May 2015. No patients (0%) experienced respiratory depression directly secondary to oxycodone administration. 4 patients (0.5%) experienced post-operative apnoea or snoring, independent to administration of oxycodone. 8 patients (1.07%) experienced post-operative pain requiring outpatient management. 4 patients (0.53%) required readmission for pain management and dehydration. 9 patients (1.2%) experienced PONV (criterion grade 2 or 3). 19 patients (2.12%) experienced an unplanned medical review or admission for pain and/or dehydration. Constipation as a side effect of oxycodone was reviewed between January 2014 and May 2015. A total of 140 cases were performed and 3 patients (2.14%) experienced constipation.

Conclusions: We conclude on the basis of our study that the use of oxycodone in paediatric tonsillectomy provides both safe and effective post-operative pain management.

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Audiometric Measured and Self Reported Hearing Loss and Heart Disease – a Cross Sectional Study

To investigate the relationship between hearing loss and cardiovascular disease risk factors in a cross-sectional study.

Methods: 5,107 participants born within the years 1946-1964 enrolled in the Busselton Healthy Ageing Study, from The City of Busselton in Australia were recruited between May 2010 and December 2015. They answered a comprehensive health and risk factor questionnaire. Physical and biochemical assessments were performed. Self-reported hearing loss, tinnitus and hyperacusis were assessed via questionnaire. Hearing loss was assessed through best ear four-frequency average (500, 1000, 2000, 4000Hz), low-frequency average (250, 500, 1000Hz) and high-frequency average (4000, 8000Hz). Cardiovascular risk factors were assessed via questionnaire and measurements including blood pressure, body mass index, waist circumference, lipid profile and glycated haemoglobin.

Results 46% were male with a mean age of 58 years. 4.3% reported hearing loss, 2.0% tinnitus, and 1.7% hyperacusis. Best ear four-frequency average was 10.7dB, low-frequency average 7.4dB, and high-frequency average 23.1dB. Age, sex and family history of hearing loss were strong determinants of hearing loss. After adjusting for these, obesity, current smoking, peripheral arterial disease and history of cardiovascular disease were associated with audiometric measured hearing loss. In addition, high blood pressure, high triglyceride and high glycated haemoglobin was associated with low-frequency and four-frequency hearing loss. Increased high-density lipoprotein levels may be protective against hearing loss. There was a graded association between audiometric hearing loss and Framingham Heart Score for 10-year cardiovascular risk ($p < 0.001$).

Conclusion: Several cardiovascular disease risk factors were found to be associated with hearing loss. An overall increased cardiovascular risk profile is a strong determinant of hearing loss.

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Efficacy of Chitodex – Budesonide - Mupirocin Gel as an Anti-Staphylococcus Aureus Biofilm Agent in Vivo

Efficient delivery of anti-inflammatory and anti-biofilm treatments for patients with recalcitrant chronic rhinosinusitis (CRS) continues to be a challenge. Current management options lack sufficient contact time with the sinus mucosa for the active agents to exert their full effect. This study aims to assess the efficacy of Chitodex gel, combined with an anti-inflammatory agent Budesonide and an antibiofilm agent Mupirocin (CD-BM) for treatment of *S. aureus* biofilms in vivo.

Methods: Using a sheep sinusitis model, 15 sheep were divided into three groups of 7 days treatments, 5 sheep (n=10 sinuses) per treatment, (1) twice daily saline flush (NT), (2) Chitodex gel (CD) with twice daily saline flush, and (3) CD-BM with twice daily saline flush. The anti-inflammatory effect was graded histologically by a blinded independent pathologist. The anti-biofilm effect was assessed comparing the biofilm biomass across all groups using LIVE/DEAD BacLight stain and confocal scanning laser microscopy.

Results: Histopathological analysis showed no significant differences between the different groups in the degree of inflammation, epithelial thickness, goblet cell hyperplasia, oedema and fibrosis. COMSTAT2 assessment of biofilm biomass showed a significant reduction in CD-BM treated sheep compared to NT controls ($p < 0.05$, one-way ANOVA, Kruskal-Wallis test).

Conclusion: Results indicate that CD-BM is effective against *S. aureus* biofilms in a sheep sinusitis model and could represent a viable treatment option in the clinical setting for recalcitrant CRS.

Biography:

Mian graduated from University of Tasmania with a MBBS degree in 2012. She is currently completing her PhD under the supervision of Prof PJ Wormald, Assoc Prof AlkisPsalstis and Dr Sarah Vreugde. Her PhD thesis focuses on finding novel antimicrobial agents for the treatment of recalcitrant chronic rhinosinusitis.

