

 **65th Annual Meeting**
Victoria Conference Centre (VCC), VICTORIA, BC

Scientific Program with Abstracts

SUNDAY, MAY 22, 2011
LECTURE THEATRE, VCC

PLENARY SESSION: Opening

CHAIR: President Dr. Dale Brown, Toronto, ON

- 08:00-08:10 **President's Address** – D. Brown, Toronto, ON
- 08:10-08:15 **Welcome from Scientific Program Chair** – F. Kozak, Vancouver, BC
- 08:15-08:20 **Introduction of Guest of Honour, Dr. Patrick Gullane, Toronto, ON** – D. Brown, Toronto, ON
- 08:20-08:30 **Guest of Honour Address** - P. Gullane, Toronto, ON
- 08:30-08:35 **Introduction of Guest Speaker Dr. Johannes Fagan, Cape Town, South Africa** – D. Brown, Toronto, ON
- 08:35-09:15 **Developing World ENT: A Global Responsibility** – J. Fagan, Cape Town, South Africa
- 09:15-09:20 **Introduction of Special Speakers, Humanitarian Outreach** – D. Brown, Toronto, ON
- 09:20-09:35 **Special Humanitarian Outreach Presentation: Uganda** – B. Westerberg, Vancouver, BC
- 09:35-09:50 **Special Humanitarian Outreach Presentation: Northern Canada** – K. Kost, Montreal, QC
- 09:50-10:00 **SAFETY CORNER**
The Adrenaline Rush I Could've Done Without – A Cautionary Tale for the Strong Heart – D. Morris, Halifax, NS
- 10:00-10:30 **COFFEE: VISIT TO EXHIBITS & POSTERS** (*Carson Hall, VCC*)
- 10:30-10:38 **TOP PAPER – OTOTOLOGY**
Digital Image Stabilization: A Treatment for Oscillopsia – D. Pothier, J. Rutka, C. Hughes, P. Ranalli, Toronto, ON

Learning Objectives

At the end of the presentation, attendees will be able to understand the pathophysiology of bobbing oscillopsia and assess the treatment options available. Attendees will have gained knowledge about future directions of treatments for bilateral vestibular loss.

Abstract

Objectives: To use digital image stabilization to improve dynamic visual acuity in bilateral vestibular loss (BVL)

Methods: Augmented reality goggles were used to capture live video of oscillopsia, consistent with patients' vision when experiencing oscillopsia from BVL. This was then digitally stabilized in real time and projected onto small high-resolution screens on the goggles, thereby stabilizing the image seen by the patient. Dynamic visual acuity was measured using a Snellen chart; visual acuity was recorded at rest, during a head shake at 2Hz, with and without image stabilization. A mean score was taken from three attempts for each component. These were all tested in a vertical and horizontal direction.

Results: Acuity at rest ranged between 7 and 9, with a median of 8.17. For the horizontal component of the test, this dropped to 2.67 but increased again to 6.16 once image stabilization was commenced. Similar results were found for the vertical tests with medians of 2.66 for head shaking unstabilized and 6.66 for stabilized head shake dynamic acuity respectively.

Conclusions: This is the first report of the use of digital image stabilization improving reduced dynamic visual acuity as a result of BVL. After some refinements, the clinical application of these goggles looks promising.

- 10:38-10:46 **TOP PAPER – SINUS DISEASE**
Canadian Rhinology Network: What Are We Doing Across the Country? – Y. Chan, Toronto, ON

Learning Objectives

1. By the end of the workshop, the audience will be able to determine the common rhinologic cases presenting to Canadian rhinologists across the country.

2. By the end of the workshop, the audience will be able to understand some of the common presenting rhinologic symptoms to the Canadian rhinologist.
3. By the end of the workshop discussion, the audience will be able to consider the different management strategies for patients who presents with different rhinologic conditions.

Abstract

Objectives: To determine the feasibility of a collaborative effort for rhinology case collection across Canada.

Methods: A web-based log was designed specifically to collect data from rhinologists across Canada to determine their case mix, patient presentations, as well as management strategies.

Results: 13 rhinologists participated in the data collection. 50 cases were logged by each participant. The case mix includes a range of rhinologic diseases: epistaxis, deviated nasal septum, allergic rhinitis, acute sinusitis, chronic sinusitis with and without polyps, allergic fungal sinusitis, CSF leak, benign tumour, and malignant tumour. Presenting symptoms collected include anosmia/hypsomnia, clear rhinorrhea, epistaxis, face pain, nasal obstruction, ocular pruritus, post nasal drip, and purulent rhiorrhea. Medical management, surgical management, and other treatment modalities were also logged.

Conclusion: This is the first pilot study for data collection within the Canadian rhinology network. The success of the pilot will lead to further collaborative efforts of rhinologists across the country to conduct multi-centre clinical trials.

10:46-10:54

TOP PAPER – HEAD & NECK SURGERY

Identification of Circulating Tumour Cells in Advanced Head and Neck Cancer – C. Szeto, K. Fung, J. Franklin, J. Yoo, A. Allen, L. Lowes, D. Palma, London, ON

Learning Objectives

After viewing the presentation, the learner will be able to:

1. Appreciate that circulating tumor cells (CTCs) are present in the blood stream of patients with metastatic cancer.
2. Understand that CTCs can be isolated using immunomagnetic techniques.
3. Appreciate that the presence of CTCs may be important for prognosis, monitoring response to treatment and guiding treatment decisions.

Abstract

Objective: To investigate whether the CellSearch© system can identify circulating tumour cells (CTCs) in the blood of patients diagnosed with advanced staged head and neck squamous cell carcinoma (ASHNSCC) prior to the initiation of chemotherapy, radiotherapy, or surgery.

Subjects & Methods: Fifteen patients from the Head and Neck clinic at Victoria Hospital diagnosed with ASHNSCC (stage III/IV) were prospectively enrolled in the study. 10 mL of blood was drawn into CellSave© blood collection tubes at the time of the initial diagnosis. 7.5mL of each sample was tested for CTC's using the CellSearch© system, which isolates cells of epithelial origin (EpCAM+) using an immunomagnetic separation procedure. Candidate CTC's were then quantitatively analyzed with the CellTracks Analyzer. Results were reported as number of CTCs/7.5 mL whole blood.

Results: Circulating tumors cells were isolated in six of 15 patients with ASHNCC. There was a trend towards isolation of CTCs in patients with lung lesions above 1cm (p=0.09)

Conclusions: Circulating tumor cells can be successfully isolated in patients with ASHNSCC using the Cellsearch© system. CTC levels may be important for prognosis, evaluating treatment outcome and for determining efficacy of adjuvant treatments.

10:54-11:05

DISCUSSION - Top Papers

11:05-11:15

Editorial Reviewers Awards – E. Wright & H. Seikaly, Edmonton, AB

11:15-12:00

WORKSHOP #1

Topical Treatments for Sinus Disease: Separating Fact and Myth – R. Gall, Winnipeg, MB

Learning Objectives

- The participant should be able, after attending the workshop, to identify which topical therapies have proven benefit for treatment of sinus disease.
The participant should be able to identify which treatments have no proven benefit
The participant should be able to identify when and how to properly utilize topical therapies in sinus disease

Abstract

There are many topical options available for the treatment of sinus disease. While some of these have been rigorously investigated, many others have not. As well, there are many over the counter treatments that patients often turn to. Otolaryngolgists need to be aware of what is commercially available, what the available data shows, what other treatments are available that may work but not scientifically yet proven as well as some common treatments that although commonly used have never been shown to be effective. This workshop will attempt to clarify these issues.

Sunday, May 22, 2011 – LECTURE THEATRE continued...

12:00-13:30 **LUNCH: Visit to Exhibits and Posters** (*Carson Hall*)

13:30-14:15 **WORKSHOP #4**
Local Flaps in Facial Reconstruction for the Otolaryngologist - Head and Neck Surgeon – M. Brandt, S. Baker, Ypsilanti, MI

Learning Objectives

Participants will gain an appreciation for the anatomy, classification, and taxonomy of local flaps.

Attendees will better understanding the application of local flaps to common facial defects.

Participants will begin to develop a reconstructive algorithm for the most common facial defects.

At the completion of this workshop, attendees will demonstrate an improved ability to apply local flaps to the reconstruction of facial defects.

Abstract

Objectives: Skin cancer is the most common cancer in Canada. Otolaryngologist – Head and Neck Surgeons are at the forefront of managing facial skin cancers and thus must be equipped with an array of techniques to help reconstruct the defects left by the surgical ablation of this common problem. Local flaps present a creative and unique reconstructive option. The goal of this workshop is to better familiarize the participant with the local flap options available in the reconstruction of the most common facial defects.

Methods: A discussion of facial reconstruction with a focus on the "Reconstructive Ladder" will take place. A thorough review of the anatomy and taxonomy of local flaps will follow; with a more detailed discussion of the step-by-step application of these local flap options to the most common facial defects. A specific discussion of nasal reconstruction will unfold with a focus on bilobe, interpolated forehead, and interpolated cheek flaps.

Conclusion: Local flap reconstruction of facial defects presents a necessary, creative, and rewarding practice opportunity to the Otolaryngologist – Head and Neck Surgeon. This workshop will endeavor to better familiarize current Otolaryngologists and postgraduate trainees with local flaps in facial reconstruction.

14:15-15:00 **WORKSHOP #7**
Rhinology Forum with the Experts: Practical Management of Common Rhinologic Conditions – Y. Chan, A. Janjua, Toronto, ON

Learning Objectives

1. By the end of the workshop, the audience will be able to distinguish the presentations of a number of common rhinologic diseases.

2. By the end of the workshop, the audience will be able to evaluate some of the commonly encountered rhinologic conditions.

3. By the end of the workshop discussion, the audience will be able to consider the most appropriate management strategy, medical vs surgical, for patients with difficult to manage rhinologic diseases.

Abstract

Objectives: To provide practical insight into the management of patients with conditions including chronic rhinosinusitis, nasal polyposis, allergic fungal sinusitis.

Methods: Case-based interactive discussion of the management of several common rhinologic conditions with a panel of expert rhinologists. The panelists will include: Dr. Ian Witterick, Dr. Erin Wright, and Dr. Francois Lavigne

Results: Discussion will include diagnosis, medical management, and surgical management of common rhinologic conditions. Ambulatory management such as the use of various intra-nasal topical therapies and the role of office-based debridements will be discussed. Audience participation via handheld devices will be included to gauge the current management strategies currently employed throughout the country.

Conclusion: There has been a request for this type of discussion from the CSO membership. This was discussed this at our Rhinology Working Group meeting last year and this type of case-based , interactive forum with input from several rhinologist would be the best way to stimulate a discussion of the different management strategies for some of the difficult to manage patients.

15:00-15:30 **COFFEE: Visit to Exhibits & Posters** (*Carson Hall*)

PAPERS: Sinus Surgery

CHAIR: TBA

15:30-15:37 **Correlation of Clinical History and Physical Exam to Positive CT Findings for Non-Polypoid Para-Nasal Sinus Disease** – A. Rassouli, M. Tewfik, Montreal, QC

Learning Objectives

The ENT clinician would be able to determine when to order CT sinus for patients with CRS symptoms without nasal polyps on exam.

Abstract

Objective: Chronic rhinosinusitis (CRS) affects significant portion of the population and is one of the most common reasons for Otolaryngology visits. In recent years, Computed Tomography (CT) has become the main modality of investigation in sinus disease. However, significant paucity in evidence exists in correlating the constellation of symptoms with positive CT findings altering treatment course. Given the associated radiation exposure and significant economic burden, clinical guidelines in determining the appropriateness of CT investigation are needed.

Methods: We prospectively investigated correlations between presenting symptoms and positive CT outcomes that affected subsequent management in 80 consecutive patients without nasal polyps sent for sinus CT. A questionnaire of para-nasal sinus disease symptoms was completed by patients prior to imaging and findings from rigid nasendoscopy were recorded. CT sinuses were subsequently graded using the Lund-McKay scoring system. The symptom constellations were then analyzed for correlations CT findings that altered treatment.

Results: The symptom most closely correlated was facial pressure, and least correlated was post-nasal drip. Positive predictive values of each of the symptoms assessed as well as physical findings will be detailed.

Conclusion: Clinical guidelines can play an important role in directing the radiologic investigation for para-nasal sinus disease.

15:37-15:44 **Revision Rates after Endoscopic Sinus Surgery: A Recurrence-analysis** – B. Rotenberg, G. Jeremic, D. Mendelsohn, E. Wright, Edmonton, AB

Learning Objectives

After the presentation, the audience will:

- 1) gain an appreciation for the severity of nasal polyposis phenotypes;
- 2) understand the risk stratification of polyp recurrence;
- 3) be informed about the nature of statistical survival analysis (Kaplan-Meier technique);

Abstract

Objective: Chronic rhinosinusitis with nasal polyposis is often refractory to medical and surgical management especially in patients with asthma and aspirin intolerance. We used a contemporary database to investigate recurrence revision surgery rates following endoscopic sinus surgery.

Methods: Cohort study using survival analysis technique. Records were reviewed of 549 patients with nasal polyposis who underwent endoscopic sinus surgery over a 10 year time period. The main outcome measure was disease-free and surgery-free survival following endoscopic sinus surgery, investigated using Kaplan-Meier analyses.

Results: Patients with Samter's triad were significantly more likely to recur and undergo a second surgery following recurrence (Risk-Odds Ratio = 2.7 (95% CI 1.5-3.2), $p < 0.01$) than patients with or without asthma. The presence of initial frontal sinus disease also increased the likelihood of revision surgery (Risk-Odds Ratio = 1.6 (95% CI 1.2-1.8), $p < 0.05$).

Conclusions: This is the first study to use survival analysis to document revision surgery rates following endoscopic sinus surgery. Revision surgery occurs at a high rate, especially in patients with asthma, Samter's triad or frontal sinus disease. Patients should routinely be informed about recurrence likelihood during clinical consultations. Early intervention for frontal disease may be considered.

15:44-15:51 **Transnasal Endoscopic (TE) Resection of Pituitary Pathology (PP): One year Experience of Multidisciplinary Skull base Team** – M. Shakeel, A. Hussain, M. Kamel, Aberdeen, Scotland

Learning Objectives

1. Describe the advantages of a multidisciplinary team (otolaryngology/neurosurgery) approach to the pituitary pathology.
2. Demonstrate its safety and efficacy in a new service setting.
3. Demonstrate modifications of standard technique.

Abstract

Objectives: Describe the advantages of a multidisciplinary team (otolaryngology/neurosurgery) approach. Describe our modifications of technique. Share our experience.

Methods: The data was collected retrospectively for patients who underwent TE resection of PP from September 2009 to October 2010. Data includes demographics, pre and post-op imaging, surgical indication, technique details including skull base repair, duration of hospital stay and post-op complications and their management.

Results: Twenty five patients (Males 11, Females 14), with a mean age of 48 years (range 15-72 years) were identified. Most common indication was Macroadenoma. Others included Pituitary apoplexy, Microadenoma and Rathke's cleft cyst.

The skull base defect was repaired using multilayered acellular dermis, Tisseal, Floseal and Naspore. Three intraoperative CSF leak were identified and repaired primarily with no post-operative leakage. The mean duration of hospital stay was 6 days (4-12 days). Only one patient was readmitted for management of hormonal aberration.

Conclusions: We feel that multidisciplinary approach offers some distinct advantages by combining expertise of two specialities. We have demonstrated that team approach has worked well even for a new set-up. Even though each speciality can carry out the procedure independently but we advocate a team approach as demonstrated by the safety of the new service.

15:51-15:58 **Evaluation of Manuka Honey in Management of Chronic Rhinosinusitis in Cystic Fibrosis Patients** – E. Akbari, A. Javer, A. Akbari, T. Andejan, A. Sharma, Vancouver, BC

Learning Objectives

The audience will -

1. be able to describe the complications of chronic rhinosinusitis (CRS) in patients with cystic fibrosis;
2. be up-to-date in regards to current medical and surgical management of CRS in patients with cystic fibrosis;
3. be able to list the anti-microbial and anti-inflammatory properties of Manuka honey;
4. be able to describe the olfactory function test and quality of life assessment in CRS;
5. know the effects of Manuka honey sinonasal irrigation in treatment of refractory CRS post functional endoscopic sinus surgery in cystic fibrosis patients;
6. thus learn about Manuka honey as possible new treatment modality for management of refractory CRS in CR patients.

Abstract

Background: Chronic rhinosinusitis (CRS) is a pathological and clinical component of Cystic Fibrosis (CF). In spite of current medical management CF patients experience high rates of morbidity and recurrence following functional endoscopic sinus surgery (FESS) or CRS. Thus, new treatment modalities are required.

Objective: To determine the effectiveness of Manuka honey in improving olfactory function, decreasing edema, and nasal obstruction in CF patients with refractory CRS following FESS.

Methods: Fifteen CF patients who underwent bilateral FESS for CRS were enrolled in a prospective study and performed bilateral sinonasal irrigation with Manuka honey, once daily for 30 days. The scores for: (1) endoscopic sinus staging, (2) olfactory performance, and (3) the 22-item sinonasal outcome test (SNOT-22) were obtained for each patient before and after treatment with Manuka honey.

Results: After 30 days of sinus irrigation with Manuka honey there was a statistically significant improvement in overall mean scores for olfactory function, and SNOT-22 scores. Endoscopic staging irrigation may be an effective adjunctive treatment modality for CF patients with refractory CRS. More studies are required to further characterize the role of Manuka honey in management of refractory CRS in CF patients.

15:58-16:05 DISCUSSION

16:05-16:12 **A Double-Blinded Randomized Controlled Trial of Budesonide Medication-Soaked Merocel versus Merocel Applications for Endoscopic Sinus Surgery** - E. Chang, E. Akbari, A. Ostry, A. Javer, Vancouver, BC

Abstract

Objective: This study aims to compare the histopathological effects of Merocel middle meatal spacer (MMS) and Budesonide (Pulmicort) medication-soaked Merocel MMS on mucosal healing and patient's discomfort following functional endoscopic sinus surgery.

Methods: Forty-six patients with chronic rhinosinusitis undergoing bilateral functional endoscopic sinus surgery were enrolled in a perspective study. Patients were randomized and blinded to receive Budesonide medication-soaked Merocel MMS in one nostril and unmedicated Merocel MMS on the contralateral side. Patients were seen one week post-operatively where they were asked to complete a visual analogue score (VAS) to report the level of discomfort on each side. Biopsies of the mucosa were taken from both middle turbinates after spacer removal 6d post op and sent to a blinded pathologist to determine the level of mucosal inflammation.

Results: There was no statistically significant difference in the results in all three objectives' outcomes. Although the results were statistically insignificant, there was a trend towards decreased degree of mucosal inflammation and increased level of discomfort upon the removal of the packings for the Budesonide-soaked Merocel MMS group.

Conclusions: Budesonide-soaked Merocel MMS was found be a safe alternative to a standard Merocel MMS. Further studies should be done, perhaps even involving different types of medication to determine their potential benefits and long-term outcomes.

16:12-16:19 **Endoscopic Suture Technique: A Cost Effective Method for Middle Meatal Preservation** – B. Hanna, S. Kilty, Ottawa, ON

Learning Objectives

To educate otolaryngologists about the suture technique, it's efficiency in prevenmtng lateralisation of middle turbinate and middle meatal obstruction, and other available alternatives, and compare the cost of the suture technique with those alternatives

Abstract

Background: Lateralization of the middle turbinate following endoscopic sinus surgery can lead to increased patient morbidity. Numerous techniques have been proposed to avoidthis complication including middle turbinectomy, stents, controlled synechia formation, and metallic clips.

Objectives: To determine if a suture technique is an effective middle turbinate stabilization procedure. To perform a cost analysis of this technique compared to commercially available middle meatal stents.

Material and Methods: Retrospective review of 43 cases, all performed by the senior author using a middle turbinate suture technique, and the 3 month postoperative results. The efficacy and the cost of this technique was compared to other materials.

Results: 76 turbinates were treated in 43 patients.. The success rate was 97.4% (74/76). Commercial stent use cost was 8 to 83 times the price of the suture.

Conclusion: The middle turbinate suture technique is effective at preventing turbinate lateralization and has a significantly lower cost than other materials

16:19-16:26 **Frontal Sinusotomy - Less is More in Improving Olfactory Function** – A. Thamboo, S. Sunkaraneni, J. Manji, A. Javer, Vancouver, BC

Abstract

Objective: To evaluate the effect of the Messerklinger technique for frontal sinusotomy on subjective and objective olfactory function.

Methods: Prospective study of 30 consecutive patients who underwent primary frontal sinusotomy at St. Paul's Sinus Centre in Vancouver between July 2010 and September 2010. The 22-item Sinonasal Outcome Test (SNOT-22) was used to assess patient's quality of life and Sniffin' Sticks were used to assess objective olfaction prior to surgery and 5 weeks post-operatively. The smell component (out of 5) of the SNOT-22 was also analyzed. Scores pre- and post-operatively were compared using t-test.

Results: The mean overall SNOT-22 score prior to frontal sinusotomy was 49.2 +/- 4.3; this score significantly improved to 25.6 +/- 3.3 following frontal sinusotomy (p<0.0001). The score for the smell item (out of 5) was 3.9 +/- 0.3 pre-operatively and 2.6 +/- 0.4 post-operatively (p<0.01). The Sniffin' Sticks scores also showed significant improvement with a pre-operative score of 15.4 +/- 2.2 and the post-operative score of 21.3 +/- 1.9.

Conclusion: Frontal sinusotomy performed using the Messerklinger technique is associated with an improvement in quality of life and olfaction. The Messerklinger technique illustrates that less is more in frontal sinus surgery.

16:26-16:33 DISCUSSION

16:33-16:40 **Frontal Sinus Cells: Identification, Prevalence and Association with Frontal Sinus Disease** - M. Langille, E. Walters, T. Kotylak, E. Wright, Edmonton, AB

Abstract

Objectives: There is a paucity of data in the literature regarding the incidence and clinical implication of frontal sinus cells. The objective of the current study is to determine the prevalence of frontal sinus cells and their association with frontal sinus disease as well as to determine inter-rater correlation when identifying frontal sinus cells.

Methods: All computed tomography scans of the sinuses performed at the University of Alberta Hospital between February and October 2010 were reviewed (468 patients). Calculation of sample size determined that 150 scans each with and without frontal sinus cells would be required for analysis. Studies were excluded if they had traumatic injury, congenital craniofacial defects or post surgical changes.

Results: The prevalence of frontal sinus cells in this population is 41% (Type I: 31%, Type II: 7%, Type III: 3%, Type IV: 0%). The inter-rater agreement for identification of any frontal sinus cell is 73% and of a specific type was 69% (overall Pearson correlation: 0.39). A patient is significantly more likely to have frontal sinus disease if frontal sinus cells are present (p-value <0.05).

Conclusions: Frontal sinus cells can be difficult to accurately diagnose, specifically which type of frontal sinus cell. Frontal sinus cells are associated with a clinically significant burden of frontal sinus disease.

16:40-16:47 **Endoscopic Cerebrospinal Fluid Leak Repair: A Systematic Review and Meta-Analysis** – N. Cohen, D. Sommer, J. Strychowsky, K. Reddy, M. Gupta, Hamilton, ON

Learning Objectives

At the end of this presentation, professionals in otolaryngology and head and neck surgery will be able to list the various methods of endoscopic cerebrospinal fluid leak repair and their various risks and benefits. They will also be able to comment on these in an evidence-based manner based on a systematic review of the literature and meta-analysis of published data.

Abstract

Introduction: In the advent of minimally invasive surgical techniques, endoscopic approach to base of skull cerebrospinal fluid leaks has gained favor over traditional open or craniotomy techniques. With reported success rates of endoscopic repair between 85 and 95%, it is important to now establish the specific risks associated with different methods of repair, as well as rate of CSF leak recurrence.

Methods: A systematic review of the literature was conducted through a literature search on EMBASE, Medline and Cochrane. We excluded papers focusing on the pediatric population and those with no or insufficient data on post-operative outcomes. All causes of CSF leak were included as well as all types of endoscopic repair. Outcome measures include rate of success/recurrence, incidence of postoperative meningitis, and mortality. We also report the use of intra-operative fluorescein use as well as other methods for identifying leaks in the OR, which may impact successful post-operative outcome.

Results: Thirty-three articles met our inclusion criteria. The overall rate of complications and morbidity reported in the articles reviewed were low. However, there were a number of patients who required 2nd and sometimes 3rd operations for CSF leak repair.

Conclusion: Endoscopic CSF leak repair remains a safe procedure, but different techniques offer superior success rates and prevent repeat surgeries in these patients.

16:47-16:54 **Common Polymorphisms in the IL1RL1 Gene in CRS Patients are Associated with Reduced Gene Expression and Reduced TH2-Cell Function** – M. Chater, M. Desrosiers, L. Mufuna, A. Swanson, D. Celine, R. Simon, Montreal, QC

Learning Objectives

By the end of this session, the audience will be able to:

1. Describe the IL1RL1 pathway and its proposed role in Chronic Rhinosinusitis
2. Interpret the findings of gene expression studies using microarray analysis, pathway software analysis and functional studies (immunohistochemistry and PCR)
3. Evaluate previously identified significant SNPs in the IL1RL1 gene with respect to disease severity
4. Interpret the results of IL1RL1 expression studies in CRS patients and controls
5. Consider possible implications and future directions of gene expression studies in CRS
6. Consider clinical applications of gene expression studies, including potential diagnostic and therapeutic targets.

Abstract

Objective: TLR signaling is essential for regulation of mucosal immune response to pathogens. Polymorphisms in the IL1RL1 gene, a negative regulator of TLR signaling, is associated with chronic rhinosinusitis (CRS) and has a genotype-specific effect on IgE level. We wished to determine whether IL1RL1 gene activity was altered in CRS subjects.

Methods: 20 patients undergoing surgery for CRS and 10 controls were recruited at time of surgery. Blood was drawn for genotyping, CBC and total IgE. Simultaneous sinus biopsy for immunohistochemistry and epithelial cell culture was obtained. Subjects were genotyped for previously identified SNPs. Differentiated epithelial cell cultures were raised in an air-liquid interface and expression profiling performed using the Illumina HT12 Beadchip v3, with results expressed as fold-change (FC) between CRS and control subjects. eSNP analysis was performed using an ANOVA test to identify significant SNP-gene interactions.

Results: Expression of the IL1RL1 gene was increased 2.62-fold (Padj 0.00089) in the CRS subjects, with a significant association between the rs13431828 genotype and IL1RL1 gene expression level (p=0.006).

Conclusion: IL1RL1 gene expression is increased in CRS subjects, suggesting a role in CRS. Mechanistically, this may interfere with the TLR signalling cascade, leading to dysregulated responses to mucosal pathogens.

16:54-17:00 DISCUSSION

17:00-18:00 WORKSHOP #10

New Technologies in Sinus Surgery - Fact Versus Fiction – B. Rotenberg, London, ON, E. Wright, Edmonton, AB, O. Smith, Toronto, ON, A. Janjua, Vancouver, BC

Learning Objectives

After attending the workshop, participants will

- 1) be able to describe the role of balloon sinuplasty in sinus surgery.
- 2) understand options available to manage intraoperative bleeding via use of topical hemostatic agents.
- 3) be aware of the emerging role of drug eluting stents in managing post-operative care for nasal polyposis.

Abstract

Objective: The purpose of our workshop is to review new technologies in sinonasal surgery that attendees may find applicable to their practices.

Methods: A panel of 4 Otolaryngologists (Rotenberg, Wright, Smith, Janjua) will review and update the audience on new technologies in sinonasal surgery. These include balloon sinuplasty, topical hemostatic agents, and drug eluting stents. Cases will be reviewed as applicable. A full Q&A session will ensue.

Results: Not applicable

Conclusions: Not applicable

**SUNDAY, MAY 22, 2011
SAANICH ROOM, VCC**

11:15-12:00 WORKSHOP #2

Clinical Trials: A Guide for Clinicians - D. Schramm, D. Fergusson, Ottawa, ON

Learning Objectives

Understand the processes involved in design, conduct and analysis of a clinical trial.

Be able to critically appraise a clinical trial.

Identify opportunities for conducting clinical trials.

This course will also allow otolaryngologists to identify opportunities for collaboration in clinical trials/intervention studies.

Abstract

Randomized trials provide the strongest evidence of the effectiveness of a particular clinical intervention. A well designed clinical trial can provide evidence that is unparalleled by observational studies. Randomization of study subjects theoretically permits equal distribution of known and unknown subject characteristics between the study and control groups. Differences in outcomes can therefore be attributed treatment differences.

Careful planning is necessary to maximize the validity of a clinical trial. An appropriate sample size calculation will ensure that sufficient power exists to detect a difference between the study and control groups. Clear definition of the study population through explicit inclusion and exclusion criteria is essential and requires balancing the often opposing factors of internal validity and external validity (generalizability). Particular care is necessary in the design of other aspects of the study protocol, especially the description of treatment arms, monitoring of subjects, specification of the primary and secondary outcomes, and data analysis.

David Schramm MD SM FRCSC, a neurologist with experience in clinical epidemiology will present the rationale for conducting clinical trials. The importance of a well-structured research question and ethical considerations will be emphasized.

Dean Fergusson MHA PhD, Director, Clinical Epidemiology Program, Ottawa Hospital Research Institute will review the fundamentals of conducting and appraising clinical trials. The "PICOS methodology" will be explained. The necessity of an independent data monitoring committee and interim analyses for certain clinical trials will be discussed. "Intension to treat" and "as treated" analyses as well as analysis options for incomplete data will be reviewed.

12:00-13:30 **LUNCH: Visit to Exhibits & Posters**

13:30-14:15 WORKSHOP #5

Hyperparathyroidism: Contemporary and Novel Approaches in Surgical Management – J. Yoo, London, ON, J. Harris, Edmonton, AB, M. Heir, Montreal, QC, S. Chandarana, Calgary, AB

Learning Objectives

1. By the end of this session, the learner will be aware of various types of hyperparathyroidism, the diagnostic criteria, and the indications for surgery.
2. By the end of the session, the learner will understand the contemporary modalities of pre-operative imaging and how they related to surgical planning.
3. By the end of the session, the learner will be introduced to several algorithms in the surgical management of different parathyroid disorders.
4. During the session, the learner will have the opportunity to interact with the expert panel as challenging cases are presented and potential pitfalls are discussed.

Abstract

Hyperparathyroidism is a common endocrine disorder facing the Otolaryngologist-Head and Neck Surgeon. In most situations surgery is highly effective but careful preoperative planning is essential. Significant advances have been made in imaging techniques and peri-operative management. This workshop will provide an overview of hyperparathyroidism and its surgical indications. Contemporary modalities of preoperative imaging, different surgical algorithms, and new techniques in surgical management will be presented. Expert panel discussions will address challenging cases and identify potential pitfalls.

14:15-15:00 WORKSHOP #8

Buccinator and Buccal Fat Flap for Oral Reconstruction – J. Fagan, Capetown, South Africa

15:00-15:30 **COFFEE: Visit to Exhibits & Posters**

PAPERS: Laryngology

CHAIR: TBA

15:30 -15:37 **Long-term Follow-up of the Post Cricoid Mucosal Advancement Flap: An Effective Treatment for Posterior Glottic Stenosis** – S. Morzaria, S. Damrose, H. Samji Vancouver, BC

Learning Objectives

1. To review the pathogenesis of posterior glottic stenosis (PGS).
2. To describe the "work-up" of PGS and surgical options.
3. To analyze the endoscopic and open repair of PGS utilizing a post-cricoid mucosal advancement flap.

4. To review the limitations of case series data when evaluating surgical outcomes.

Abstract

Background: Posterior glottic stenosis (PGS) is a well-defined complication of prolonged intubation. Repair utilizing a post-cricoid mucosal advancement (PCMA) flap has been shown to maintain laryngeal function in the short-term. Long-term follow-up has not been reported.

Objectives: To summarize our experience with endoscopic and open PGS repair utilizing the PCMA flap.

Methods: We performed a retrospective review of adults with PGS treated with endoscopic or open PCMA flap at Stanford University Hospital between 2001 and 2010. Records were reviewed for voice-related quality of life (VHI-10), swallowing (EAT-10), complications and subsequent procedures.

Results: 6 patients met the inclusion criteria. 2 patients were managed with an endoscopic approach and 4 patients with open approach. Voice and swallowing related quality of life improved in all patients. The degree of improvement was higher in the open group, but the difference was not statistically significant. There were no major complications in either group. All patients were successfully decannulated, although 1 patient in the endoscopic group had persistent exercise intolerance and required transverse cordotomy for airway support.

Conclusions: PGS may be successfully treated with a PCMA flap either via an endoscopic or open approach. The choice of procedure should be based on surgeon preference.

15:37-15:44 **Influence of Listener Experience on Perceptual Judgments of Adductor Spasmodic Dysphonia** – J. Yeung, K. Fung, A. Dzioba, A. Day, C. Bornbaum, L. Sleeth, P. Doyle, London, ON

Learning Objectives

By the end of this presentation, the participant will understand the implications of listener experience on the subjective auditory-perceptual assessments of adductor spasmodic dysphonia and have an approach to gathering these assessments effectively and efficiently.

Abstract

Objectives: Adductor spasmodic dysphonia (ADSD) is characterized by considerable inter-subject variability and this has been confirmed through auditory-perceptual evaluation by listeners. However, one variable that must be considered relative to perceptual assessments of ADSD is listener experience. This study investigated the influence of listener experience on judgments of ADSD.

Methods: Seventeen adults with ADSD served as speakers. Each provided a recording of a standard speech sentence and two additional sentences commonly used to distinguish spasmodic dysphonia. Four groups of 10 subjects served as listeners (naïve, professional students in voice science, medical residents, and otolaryngologists) provided ratings of speech samples using a visual analog scale. Ratings were assessed relative to experience and reliability.

Results: Based on perceptual judgments generated, all listeners may provide reasonable assessments of voice quality associated with ADSD. However, varied degrees of listener bias may be demonstrated by those listeners who exhibit increased levels of experience relative to ADSD.

Conclusions: The importance of considering listener experience as a variable that may influence auditory-perceptual judgments of ADSD, particularly in the context of documenting outcomes will be presented. Further, approaches to gathering perceptual assessments of ADSD that are time efficient are discussed.

15:44-15:51 **Voice Dysfunction in Patients Over the Age of 65** – N. Yammine, K. Kost, F. Chagnon, Montreal, QC

Learning Objectives

1. Understand the causes of dysphonia in patients over the age of 65.
2. Gain appreciation of the interplay of etiologies contributing to voice dysfunction.
3. Understand the approach to effectively treating patients over the age of 65.
3. Increase awareness of a significantly growing group of the population with unique laryngeal needs.

Abstract

Objectives: Determine causes of voice dysfunction in patients over the age of 65, review effectiveness of suggested treatment and establish special considerations for this population.

Methods: A retrospective chart review was conducted from 2002 to 2010. All patients over age 65 who consulted the Voice Laboratory at the Montreal General Hospital were included. Demographic data along with diagnoses, treatment offered and their results were collected and analysed. Additionally, patients' comorbidities and risk factors for voice dysfunction were examined.

Results: 633 patient over the age of 65 were seen for voice dysfunction, 276 patients had complete charts and were included in the analysis. The mean age was 76 (range: 65 to 98 years old) with almost equal gender distribution. The most prevalent patient complaint was dysphonia (81.4%) followed by dysphagia (9%). Diagnoses of dysphonia included laryngopharyngeal reflux (35.5%), chronic phonotrauma (25.4%), neurologic disorders

(11%), infectious and inflammatory diseases (9%) and others causes (19.1%). Treatment included reflux protocol (50.1%), speech therapy (32.1%), surgical interventions (8.4%), augmentation (3.4%) and others (6%).

Conclusion: Age related laryngeal changes present several diagnostic and therapeutic challenges. Causes of voice dysfunction are often multifactorial and linked to co-morbidities. Management should be individualized and target underlying causes.

15:51-15:58 **Voice Disorders Among Saudi Teachers in Riyadh City** – K. Al Malki, Riyadh, SA

Learning Objectives

By the end of this presentation, the audience will be able to:

1. Know the prevalence of voice problems among Saudi teachers in Riyadh, the capital city of Saudi Arabia.
2. Understand the factors that could influence this problem.
3. Realize the difference in prevalence of voice disorders between male and female Saudi teachers.

Abstract

Background and Objectives: The teaching voice and its impact on the teaching profession have gained a special interest in several studies concerned with occupational voice disorders. To the best of our knowledge, no study had investigated this problem among Saudi teachers. This study aimed at investigating the prevalence of voice disorders among Saudi teachers in Riyadh city in addition to the possible risk factors to these disorders.

Subjects and Methods: A voice questionnaire was distributed to a random sample of Saudi teachers in Riyadh city. The study included 416 teachers with a mean age of 34.3 ± 5.2 years. Based on the results of the self-administered questionnaires, teachers with voice complaints (TVC) were identified. Significant differences between teachers regarding possible risk factors were investigated.

Results: Thirty three percent of Saudi teachers in Riyadh city reported to have voice problems. Females were significantly more prone to develop voice problems than males. Teachers who reported the presence of some living habits, teaching characteristics, and health conditions were significantly at higher risk of developing voice disorders.

Conclusion: Voice problems seem to be a prevalent problem among Saudi teachers in Riyadh city. Such condition could have negative impacts on the teaching profession. There appears to be many risk factors that can significantly affect the voice quality of teachers.

Key words: Voice disorders – Teachers – Occupational - Prevalence

15:58-16:05 DISCUSSION

PAPERS: Facial, Plastic & Reconstructive Surgery

CHAIR: TBA

16:05-16:12 **Functional Outcomes After Lateral Crural “J-Flap” Repair of External Nasal Valve Collapse** – S. Tan, B. Rotenberg, C. Moore, London, ON

Learning Objectives

After the presentation, the audience will:

- 1) gain an appreciation for the anatomy of the nasal valve
- 2) understand surgical correction of the nasal valve, including the lateral crural flap technique
- 3) be informed about various validated outcome measurements for assessing rhinoplasty outcomes

Abstract

Objectives: To evaluate the effectiveness of the lateral crural “J-flap” technique in the surgical repair of external nasal valve collapse using validated objective outcome measurements.

Study Design: Prospective outcome study with validated outcome assessment.

Methods: Prospective data were gathered on 15 consecutive cases involving adult patients who underwent lateral crural approach to repair of external nasal valve collapse between 2007-2010, performed by a single surgeon. Data were collected on diagnosis, surgical outcomes, and complications. Outcome measures included the Nasal Obstructive Symptom Evaluation (NOSE) and Rhinoplasty Outcome Evaluation (ROE).

Results: Follow-up ranged from 9-13 months. 100% of patients had statistically significant perioperative improvement in NOSE scores. There was no significant change in perceived nasal appearance after surgery as measured by ROE. There were no surgical complications.

Conclusions: Lateral crural “J-flap” approach to repair of external nasal valve collapse is a technically straightforward and safe procedure. The effectiveness is sustained at one-year follow-up.

16:12-16:19 **Alar Facial Reconstruction: Defining a Novel Algorithm for Surgical Planning** – T. Hartl, R. Younger, Vancouver, BC

Learning Objectives

1. Residents will learn the facial subunits in the context of facial reconstruction.
2. All attendees will appreciate the array of surgical techniques available to approach alar facial defects.
3. All attendees will learn a simple algorithm to aid in the planning of alar facial reconstruction.

Abstract

Objective: Reconstruction of the nasal alar subunit, in tandem with the melolabial fold and upper lip is a daunting task. This study reviews the senior author's experience with 54 cases of alar facial reconstruction. Based on this experience, a novel algorithm for surgical planning is presented.

Method: A retrospective observational study of alar facial reconstruction cases over 16 years. All procedures addressing all three subunits were included. Charts were analyzed to further characterize the defects, and to review associated operative decision-making and patient outcomes.

Results: 54 consecutive cases were reviewed. Average follow-up was 19 months. All flaps survived. Aesthetic and functional recoveries were acceptable in all patients. The lesions involved all three facial subunits, excluding the commissures. The full armament of reconstructive techniques were employed.

Conclusions: The authors were able to develop a simple algorithm for management of alar facial defects that may prospectively aid the planning of reconstructive strategy in these cases. Karapandzic lip reconstruction, with a lateral cheek flap, serving as a base for a forehead flap - works well in most cases to achieve optimal functional and esthetic results.

16:19-16:26 **Preliminary Validation of a Novel Scale for the Objective Evaluation of Linear Scars** – M. Brandt, C. Moore, P. Doyle, V. Parsa, J. Moyer, S. Baker, Ypsilanti, MI

Learning Objectives

Attendees will better understanding previous scar evaluation instruments vis-à-vis the challenge associated with objectively evaluating linear scars. Participants will consider the evidence supporting a novel scar evaluation tool, and gain an appreciation for its use in research endeavors to objectively characterize skin scarring.

Abstract

Objectives: In order to determine the efficacy of interventions to improve and monitor skin scarring, a valid assessment tool must be used. The validity of present scar evaluation scales have previously been brought into question. This study sought to develop a novel tool for the objective evaluation of skin scars.

Methods: A three-phase approach was undertaken. The first phase consisted of the establishment of construct & content validity. This was followed by a second phase, which involved the generation of the scar scale and preliminary testing. The final phase employed the use of novel computer testing software to assist in the evaluation of internal reliability and consistency. Outcomes included descriptive statistics, intra-rater, and inter-rater reliability.

Results: Thirty-four individuals completed over 13,000 ratings using a novel scar evaluation scale – the Scar Camouflage Scale (SCS). Preliminary data demonstrates intra-rater agreement of 0.816 - 0.939 and between-rater reliability of 0.526 - 0.803. Study participants found the testing software intuitive and straightforward.

Conclusions: Through rigorous methodology, this investigation provides preliminary support for the establishment of the Scar Camouflage Scale (SCS) as an accurate tool for the objective evaluation of linear scars. These results provide the empiric basis for further validity testing – with the ultimate goal of validly evaluating methods to improve skin scarring.

16:26-16:33 DISCUSSION

16:33-16:40 **Midface and Maxillary Reconstruction - An Evidence Based Approach** – D. O'Connell, H. Seikaly, J. Harris, N. Futran, Edmonton, AB

Learning Objectives

By the end of this session, Head and Neck Surgeons, General and Specialized Otolaryngologists, Residents and Allied Health Professionals will gain a better understanding of treatment options available when counselling patients suffering from midface and maxillary malignancies and defects. By the end of this session Head and Neck Surgeons, Fellows and other practioners directly involved in the treatment of midface and maxillary malignancies will have an improved understanding of the surgical techniques, possible complications that can arise when caring for patients with these types of disorders. Review of the current literature including new advances in tissue engineering, facial transplantation and presentation on outcomes in a case series of patients undergoing midface reconstruction will improve practioners ability to provide evidence based counselling to patients suffering from this complex disease.

Abstract

Objectives: To review all pertinent topics related to midface and maxillary reconstruction including current classification schemes and reconstructive techniques. Review functional outcomes of 10 patients undergoing maxillary reconstruction. Provide evidence based guidelines to optimize midface and maxillary reconstruction.

Materials & Methods: The current indications as well as advantages and disadvantages of multiple different reconstructive approaches are reviewed. Techniques, functional outcomes, and survival analysis of 10 patients treated for maxillary / midface defects are reviewed.

Results: Defects in this area represent a unique challenge to the reconstructive surgeon as the complex anatomy of this area can be challenging to repair and reconstruct. Free tissue transfer remains the best reconstructive option. Osseous reconstruction allows for dental rehabilitation in the appropriate patient

Conclusion: Multiple reconstructive pathways can be followed in restoring maxillary and midface defects. The surgeon and rest of the reconstructive team must make individualized evidence-based decisions based on the nature of the defect as well as the specific needs and concerns of the patient when selecting the optimal reconstructive approach for each patient.

16:40-16:47 **Rhinophyma-The Vancouver Experience** – E. Chang, R. Younger, Vancouver, BC

Learning Objectives

By the end of the presentation, the residents and medical students will be able to understand the condition called rhinophyma and its surgical options for excision. They will also be able to understand the challenging aspect of this procedure and its potential complications.

Abstract

Rhinophyma is a rare and benign dermatologic disease of the nose mainly affecting Caucasian men in the fifth to seventh decades of life. It is characterized by a slow and progressive enlargement of the nose as a result of an irregular hypertrophy and thickening of the nasal soft tissue, which can lead to a severe deformation of the distal half of the nose. When the cosmetic deformity is very severe, it can lead to airway obstruction from the collapse of the external nasal valves. Patients often seek treatment for cosmetic, functional, and psychological purposes, which include the negative social stigma of alcoholism as the etiology. The treatment of choice is surgical excision of the hyperplastic tumor. There are a few variations of the theme described in the literature thus far, although the main modalities used in our centre are a combination of scalpel excision and electrocautery for hemostasis. In a retrospective review, the authors describe a series of their clinical cases of rhinophyma and post-operative outcomes, including patient satisfaction and complications such as scarring and recurrence.

16:47-16:54 **Full Thickness Skin Graft Reconstruction: Through-and-Through Suturing or Tie-over Dressing** – S. Ahsan, S. Keh, L. McClymont, Dalhousie, NS

Learning Objectives

Through-and-through suturing produces comparable full thickness skin graft survival result as with other techniques. This method saves time and minimizes handling of the graft.

Abstract

Objectives: To compare the outcome of securing a full thickness graft using tie-over dressing versus simple through-and-through suturing and compare our results with other centres. Also examine various factors which may result in graft failure

Methods: Retrospective review of charts. 111 patients (120 cases; median \pm SD age, 71 \pm 11.7 years; 63.3% male) underwent excision of a suspicious neoplastic skin lesion from head and neck region requiring FTSG between July 1999 - August 2009. Through and through suturing was compared with tie-over dressing. Factors which may contribute to unsatisfactory outcome were identified.

Results: 120 FTSG reconstructions were performed, surgical area defect ranging from 36 to 1350 mm² (mean \pm SD, 224.3 \pm 205.6 mm²). Follow-up ranged from 1 to 192 weeks. The graft take rate was 85.8%. There was no significant difference in the outcome when comparing the two techniques ($p = 0.75$). Age, gender or defect area did not affect the take rate of graft at 5% type I error rate ($p = 0.72$, $p = 0.13$, $p = 0.20$ respectively). Smoking and use of anticoagulants were found not to be contributory factors to failed grafts. Our results are comparable to other centres.

Conclusion: Through-and-through suturing produces comparable full thickness skin graft survival result as with other techniques. This method saves time and minimise handling.

16:54-17:00 DISCUSSION

17:00-18:00 WORKSHOP #11

Update and Review of Pediatric Otolaryngology Literature Over the Past Year for the General Otolaryngologist – J.P. Vaccani, Ottawa, ON

**SUNDAY, MAY 22, 2011
OAK BAY ROOM, VCC**

08:00-10:00 **PLENARY SESSION** (*Lecture Theatre*)

10:00-10:30 **COFFEE: Visit to Exhibits & Posters** (*Carson Hall*)

10:30-11:15 **PLENARY SESSION** (*Lecture Theatre*)

11:15-12:00 **WORKSHOP #3**
Incisionless Otoplasty – A. Gantous, Toronto, ON

Learning Objectives

1. Familiarize the Oto-HNS with incisionless otoplasty.
2. Illustrate the surgical technique, patient selection and management of patients undergoing incisionless otoplasty.
3. At the completion of the workshop the participant should be knowledgeable on how the procedure is done, who are the best candidates, how to manage these patients postoperatively and feel comfortable trying the technique on their own.

Abstract

The purpose of the workshop is to familiarize otolaryngologist-head & neck surgeons with the technique of incisionless otoplasty. This simple technique for correcting prominent ears can be applied to the vast majority of patients (children and adults) that we see seeking corrective surgery. The workshop will briefly touch on the historical and currently used methods of otoplasty, but will mainly be a didactic approach focused on patient selection, surgical technique and management of patients undergoing this procedure. A detailed video of the technique will be presented in order to carefully illustrate the procedure and have the participants feel comfortable to try it. Clinical cases to illustrate results will be presented.

12:00-13:30 **LUNCH: Visit to Exhibits & Posters**

13:30-14:15 **WORKSHOP #6**
Using the Endoscope for Minimally Invasive Ear Surgery – D. Pothier, C. Coulson, P. Lai, Toronto, ON

Learning Objectives

At the end of the presentation, attendees will be able to understand the endoscopic anatomy of the middle ear space. Anatomical features which have been largely forgotten as a result of relative inaccessibility will become clearly visible and clinically relevant.

After discussion of the properties of a rigid endoscope, attendees will be able to understand why endoscopic ear surgery offers an alternative that is less invasive with a far superior view of the disease being operated upon.

After the workshop, attendees will be able to start undertaking limited endoscopic ear surgery and understand how to expand their practice in this area.

Abstract

This workshop will demonstrate the emerging technique of minimally invasive endoscopic ear surgery. This technique is relatively new, but has been growing rapidly in popularity. It offers the surgeon a less invasive, disease-defined method of controlling middle ear pathology using an endoscope to provide a superior view of the middle ear space.

Using the endoscope to look around corners allows very accurate removal of cholesteatoma that can be achieved without the need for violation of healthy tissue to gain access to the middle ear. This causes considerably less morbidity to the patient and a more rapid recovery than traditional approaches. The speaker has used the technique successfully as part of a global collaboration set up to support the development of endoscopic ear surgery.

We believe that the speaker will represent the interests of most surgeons who will benefit from adding this type of surgery to their armamentarium. The use of 3D endoscopy and augmented instrumentation in this context will be discussed. The workshop will describe and demonstrate how the surgery is undertaken and how surgeons can incorporate this technique into their clinical practise.

14:15-15:00 **WORKSHOP #9**
Intratympanic Steroids: New Standard of Care for Sudden Sensorineural Hearing Loss? – V. Lin, J. Nedzelski, J. Chen, H. Amodi, P. Mick, Toronto, ON, S. Daniel, Montreal, QC

Sunday, May 22, 2011 – OAK BAY ROOM continued...

Learning Objectives

By the end of the workshop, participants will be able to know the current medical literature available supporting the use of intratympanic steroids for the treatment of sudden sensorineural hearing loss.

Participants will also become familiar with basic cellular mechanisms of the effects of high dose corticosteroids on hair cells in mammalian animal models.

Abstract

Sudden sensorineural hearing loss (SSNHL) can have dramatic impact on afflicted individuals. The clinical severity is extremely variable. An unknown percentage of affected individuals will demonstrate either complete or incomplete recovery. Currently the commonly practiced standard of care for SSNHL after confirmation with pure-tone audiometry is high dose corticosteroid treatment for 10-14 days. However there is increasing popularity amongst otolaryngologists to additionally treat these patients with multiple intratympanic steroid injections.

This workshop will examine the current evidence towards both oral and intratympanic steroid treatment for SSNHL. We will discuss the window of opportunity for the initiation of treatment and how patients can be adequately counseled with regards to expectations of recovery. Injection techniques and clinical tips will be provided. Furthermore, we will also illustrate some of the effects of high dose corticosteroids on hair cells in the animal models and how this information can be extrapolated into clinical practice. Finally, challenging cases will be presented to provide practical take home information for all participants.

15:00-15:30 **COFFEE: Visit to Exhibits & Posters**

PAPERS: Otology 1

CHAIR: TBA

15:30-15:37 **The Perils of Chlorhexadine in Ear Surgeries** – P. Lai, J. Rutka, D. Pothier, Toronto, ON

Learning Objectives

At the end of the presentation, audience will be made aware of the ototoxicity of chlorhexadine and how to minimize the risks of surgical prep solutions during in ear surgeries.

Abstract

Objectives: A literature review of chlorhexidine ototoxicity was performed. In addition, we conducted a survey on the use of surgical prep solutions during ear surgeries among otolaryngologists in Canada.

Methods: This is a cross-sectional study. An electronic survey was sent to the active members of the Canadian Society of Otolaryngology, Head and Neck Surgery via email. Questions included the use of antiseptic, choice of prep solution, duration of prep, use of a barrier method and compliance to hospital protocol changes. Answers were tabulated as descriptive data.

Results: The email was received by 253 people and 85 completed the survey. Of those who perform tympanoplasty (n=81), 78 (96%) use prep, while 3 (4%) do not. Sixty-six of the 77 respondents (86%) use povidone iodine; 4 (5%) use chlorhexidine; 3(4%) use alcohol-based; 3 (4%) use others; 1 answered "I don't know". Thirty-eight of 75 (29%) respondents use a barrier method; 23 (31%) "always"; 18 (24%) "sometimes"; and 5 (7%) "I don't know". When asked about if one would comply with the hospital policy to use chlorhexidine in ear surgery, 15 of 79 (19%) respondents agreed while 64 (81%) disagreed.

Conclusions: There is a wide variation of practice in the use of surgical prep solution among otolaryngologist. Surgeons must be vigilant to avoid the potential ototoxicity of chlorhexidine. Povidone-iodine solution and a barrier method should be considered for ear surgeries.

15:37-15:44 **Gentamicin Vestibulotoxicity: The Effects of Different Dosing Regimens** – P. Lai, J. Rutka, D. Pothier, P. Das-Purkayastha, Toronto, ON

Learning Objectives

At the end of the presentation, attendees will learn about the most common presentations in patients who developed gentamicin vestibulotoxicity.

At the end of the presentation, attendees will be able to perform clinical examinations such as the dynamic visual acuity test and the head impulse test to assess for bilateral vestibular function loss when presented with patients with gentamicin vestibulotoxicity.

After the discussion of the mechanisms of action of gentamicin, attendees will be able to understand why single daily dosing may be more damaging to the vestibular organs than multiple daily dosing.

Abstract

Objectives: Gentamicin vestibulotoxicity (GVT) can occur despite a renal safe dose. Our aim is to compare the effects of single daily dosing versus multiple daily dosing regimens on the development of GVT.

Sunday, May 22, 2011 – OAK BAY ROOM continued...

Methods: Retrospective review of 46 patients presented to a tertiary center neurotology multidisciplinary clinic between 1993 and 2009. Demographics, clinical presentation, audiovestibular testing results, parameters of gentamicin administration were reviewed. The effects of single daily dosing and multiple daily dosing on the development of GVT were compared.

Results: Nineteen of 44 patients presented with GVT without developing nephrotoxicity. Only 1 patient had tinnitus and 2 patients had deafness. However, almost all (n=18) had imbalance. All patients (n=19) had a positive dynamic visual acuity test and bilateral positive head impulse test. The time delay of GVT was significantly less in patients who have received single daily dosing than those who received multiple daily dosing (mean 15.7 vs. 33.0 days, $p < 0.04$), and despite a significantly lower total dose (4.99 vs. 7.95 grams, $p < 0.003$).

Conclusions: Single daily dosing may be more damaging to the vestibular organs than multiple daily dosing. Early detection of imbalance using simple bedside tests may prevent the high morbidity of bilateral vestibular loss.

15:44-15:51 **Systemic Dexamethasone Administration in the Prevention of Cisplatin-Induced Ototoxicity in a Guinea Pig Animal Model** – S. Waissbluth, S. Daniel, Montreal QC

Learning Objectives

Cognitive, knowledge: By the end of this session the third year medical student and first year otolaryngology residents will be able to describe the auditory brainstem response procedure when presented with an audiology clinical case.

Cognitive, knowledge: By the end of this session the third year medical student and first year otolaryngology residents will be able to list clinical manifestations of ototoxicity caused by cisplatin when presented with a clinical case.

Cognitive, Problem-solving: By the end of this session the third year medical student will be able to evaluate the benefits of dexamethasone use in ototoxicity when presented with evidence from the literature.

Abstract

Objective: Ototoxicity is a common side effect of cisplatin chemotherapy. This study was undertaken to determine potential protective benefits of a systemic administration of dexamethasone against cisplatin-induced ototoxicity.

Methods: An experimental guinea pig model was used. The animals were divided as follows: group 1: 8 animals, 12 mg/kg/day intraperitoneal (IP) cisplatin. Group 2: 8 animals, 15 mg/kg/day dexamethasone IP for 2-3 days followed by cisplatin 12 mg/kg/day; group 3: 5 animals, 10 mg/kg/day dexamethasone IP for 2 days. On day 3, they received 15-20 mg/kg/day dexamethasone IP followed later by cisplatin 12 mg/kg/day IP on day 3. Later, they received 15-20 mg/kg/day dexamethasone IP for 2 days and group 4: 10 ml of saline IP twice a day for 3 days. Auditory brainstem response shifts were measured at 4 frequencies for groups 1, 2 and 3. Light microscopy and immunohistochemistry were performed.

Results: Systemic dexamethasone administration in a guinea pig animal model did not provide an otoprotective effect for hearing yet partial protection was detected by light microscopy and immunohistochemistry.

Conclusion: Systemic administration of dexamethasone did not provide an otoprotective effect. Further studies are needed to better assess the effects of dexamethasone on animal and human hearing.

15:51-15:58 **Assessment of Ototoxicity of Almond Oil in a Chinchilla Animal Model** – E. Peleva, S. Daniel, S. Mourad, D. Citra, Montreal, QC

Learning Objectives

Affective, Application: -By the end of this presentation, the medical student and otolaryngology resident will value the need for testing the ototoxicity of drugs.

Psychomotor, Problem-solving: -By the end of this presentation, the medical student and otolaryngology resident will be able to design a pre-clinical experiment to test the ototoxicity of a drug.

Cognitive, Problem-solving: -By the end of this presentation, the medical student and otolaryngology resident will be able to evaluate the ototoxicity of almond oil.

Abstract

Introduction: Almond oil is available over the counter and is frequently prescribed as a cerumenolytic, to soften ear wax or relieve blocked ears. Nonetheless, reports on the safety of cerumenolytics are limited. This raises concerns since, in patients with a tympanic perforation, the oil may easily enter into the middle ear. Patients may be unaware of having a perforation, and cerumen impaction may prevent physicians from properly-examining the tympanic membrane. We have previously reported that the cerumenolytic triethanolamine polypeptide (Cerumenex) is ototoxic in chinchillas with a tympanic perforation.

Objectives: To assess the effect of ototopic almond oil on hearing.

Sunday, May 22, 2011 – OAK BAY ROOM continued...

Methods: Bilateral myringotomies were performed in 19 animals. One randomly-selected ear received almond oil, while the other ear received saline, applied transtympanically. Auditory Brainstem Response (ABR) tests were performed prior to application and at 14 and 30 days post application. Postmortem electron microscopy images were done to assess cochlear hair cell status.

Results: At day 30 post administration, there was no significant change in hearing thresholds.

Conclusions: In the chinchilla, when a tympanic perforation is present, application of almond oil does not cause ototoxicity.

15:58-16:05 DISCUSSION

16:05-16:12 **Intratympanic Steroids & Sudden Sensorineural Hearing Loss: Meta-Analysis** – S. Banglawala, J. Lin, A. Banglawala, J. Archibald, Hamilton, ON

Learning Objectives

- 1) By end of this session, the audience will understand the current literature available on intratympanic steroid for SSNHL.
- 2) By end of this session, the audience will be able to evaluate the efficacy of intratympanic steroids in management of SSNHL.

Abstract

Objective: Systemic steroids have become the standard of care in many centers in the treatment of sudden sensorineural hearing loss (SSNHL). Emerging evidence has shown that intratympanic steroids (ITS) might also play a role in the management of these patients. The purpose of this paper was to perform a meta-analysis of the existing literature to evaluate the benefit of ITS in SSNHL.

Method: Two independent reviewers conducted a literature search using EMBASE, OVID, Medline, PubMed, Google scholar, Cochrane Library and reference list review from 1966 to August 2010 to identify studies assessing ITS and SSNHL. All papers were reviewed for study design, results and assigned an Oxford level of evidence grade, Detsky and MINORs score.

Results: Thirty nine studies were identified that met the inclusion criteria. Six papers were randomized control trials, 21 were prospective and 12 were retrospective studies. There is some evidence that ITS may be as effective as systemic steroids for hearing recovery in SSNHL. ITS may also provide benefit to those refractory to initial systemic steroid treatment.

Conclusion: Although there is considerable heterogeneity within the literature, there is emerging evidence that ITS may play a role in SSNHL as a primary treatment modality and as salvage therapy.

16:12-16:19 **Systematic Review of Risk Factors of Adult Sudden Sensorineural Hearing Loss** – R.J. Lin, J. Chau, R. Krall, B. Westerberg, Vancouver, BC

Learning Objectives

1. To review evidence on the risk factors of sudden sensorineural hearing loss in the adult population.
2. To determine whether the risk factor profile suggest the etiologies of SSNHL.

Abstract

Objective: Sudden sensorineural hearing loss is characterized by a rapid progression of hearing loss over hours to days. The objective of our study was to determine the evidence for potential risk factors of SSNHL in the general population.

Study Design: Three researchers independently reviewed Medline (1950 - August 2010), EMBASE (1980 – August 2010) and EBM Review databases in addition to manual reference search. RCTs, prospective studies, consecutive/non-consecutive case series, and retrospective reviews in which a clear definition of SSNHL was stated were included in the study. The researchers individually extracted data regarding patient information and the presumed risk factors. Discrepancies were resolved by mutual consensus.

Results: Twenty-three articles met the inclusion criteria. Cardiovascular risk factors (smoking, increased alcohol consumption, hypertension, diabetes, hypercholesterolemia) appear to be associated with a higher risk of developing SSNHL. Elevated levels of homocysteine/fibrinogen and low levels of folate may also be implicated as risk factors. Factor V Leiden and MTHFR gene polymorphisms were found to occur more frequently in patients with SSNHL in several studies, suggesting these inherited prothrombophilic mutations could be independent risk factors of SSNHL.

Conclusions: Acquired and inherited cardiovascular risk factors appeared to be associated with an increased risk of developing SSNHL.

16:19-16:26 **Cochlear Implantation and Dizziness** – F. Alobaid, A. Zeitouni, T. Leroux, Montreal, QC

Learning Objectives

By the end of this session the audience will appreciate the increase of the prevalence of dizziness of various types (lightheadedness, disequilibrium, vertigo) after cochlear implantation, and the impact of this dizziness on the patients quality of life using the Dizziness Handicap inventory (DHI).

Abstract

Objectives: The reported prevalence of vestibular dysfunction after cochlear implantation remains controversial and varied in different scientific papers. We are aiming to assess the prevalence of dizziness in our patients, and to measure its impact on quality of life using the Dizziness handicap inventory (DHI).

Methods: 384 questionnaire forms were distributed to adult cochlear implant recipients of two rehabilitation centers in Montreal: Institute Raymond-Dewar and MAB-Mackay Institute. The questionnaires assessed a) type of dizziness: vertigo, lightheadedness, unsteadiness, and nonspecific; b) onset of dizziness: early, delayed and late and c) the DHI.

Results: The overall prevalence of dizziness increased from 28% before surgery to 43% after surgery. 23.6% of patients had no dizziness before CI, but they developed it after CI. Unsteadiness was the most common type of dizziness reported. The dizziness was transient. DHI results were low in both groups.

Conclusion: After cochlear implantation patients report a higher incidence of dizziness. This dizziness manifests as unsteadiness and is transient in most cases. This information should better prepare the patient before surgery on what to expect. More studies, perhaps with testing of vestibular function, before and after surgery will be needed to more fully understand and quantify the problem.

16:26-16:33 DISCUSSION

16:33-16:40 **Do Post-Lingually Deafened Adults Who Received Unilateral Cochlear Implants at Least Ten Years Prior have Similar Performance and Satisfaction Values Over Time?** – A. Garbens, J. Nedzelski, H. Amodi, D. Shipp, V. Lin, J. Chen, Toronto, ON

Learning Objectives

- 1: By the end of this presentation, otolaryngologists at the conference will be able to evaluate the long term benefits of cochlear implants in post-lingually deafened adults with respect to performance and satisfaction.
- 2: Otolaryngologists at the conference will be able to describe methods for performance and satisfaction evaluation in post-lingually deafened adults with cochlear implants, given the following presented methodology.
- 3: By the end of this presentation, Otolaryngologists at the conference will be able to value the importance of cochlear implants with respect to quality of life in post-lingually deafened adults.

Abstract

Objective: To assess performance and satisfaction of post-lingually deafened adults who received unilateral cochlear implants prior to 2001.

Study Design: A longitudinal prospective observational study.

Methods: The study included 246 post-lingually deafened adults with bilateral severe-profound sensorineural hearing loss who had received a cochlear implant prior to 2001. Hearing in Noise Test (HINT) and Consonant Nucleus Consonant (CNC) scores were reviewed to assess performance at 1 year and at 10 years post implantation. Satisfaction surveys, including our institutional and short-form (SF-36) quality-of-life questionnaires were reviewed.

Results: The study excluded deceased implantees (13.8%), out of province implantees (8.9%) and those lost to follow up (1%). 174 (70.7 %) individuals were included in the study. Age at time of surgery ranged between 18 to 78 years (mean 47.11). The average duration of implant use was 14 years (10 to 26 years). There was no statistically significant decline in speech recognition between performance at one and at ten years post implantation ($p > 0.05$). Patients' satisfaction remained unchanged over time.

Conclusion: Post-lingually deafened adults do not demonstrate a significant reduction in performance at least ten years post implantation and are still very satisfied with their implant, suggesting benefit to long term use.

16:40-16:47 **A Novel Method of Predicting Long-term Postoperative Facial Nerve Function Post-Acoustic Neuroma Excision** – P. Mick, J. Chen, V. Lin, D. Houlden, F. Pirouzmand, D Rowed, J. Nedzelski, Toronto, ON

Learning Objectives

By the end of the presentation, participants should understand:

1. The rationale for developing a new protocol for predicting long-term facial nerve outcomes after acoustic neuroma surgery, using intra-operative post-excision nerve stimulation response amplitudes.
2. The protocol that has been developed.
2. The positive predictive value and sensitivity of the protocol.

Abstract

Objective: To determine the sensitivity and positive predictive value of a novel method of predicting long-term facial nerve outcomes after acoustic neuroma surgery.

Methods: Patients who underwent acoustic neuroma surgery from January 2004 to January 2010 with intraoperative facial nerve monitoring and an intact facial nerve after tumour excision were included. After excising the tumour, using various currents, the nerve was stimulated directly at the pontomedullary junction. Then, using a current large enough to produce maximal facial contraction, the nerve was stimulated transcutaneously at the ipsilateral stylomastoid foramen. Compound action potential amplitudes were measured in the frontalis, orbicularis oculi, and orbicularis oris, and averaged. Percentages between the direct stimulus response and the maximal transcutaneous stimulus response were calculated and compared to long-term facial function outcomes measured using the House-Brackmann scale. Sensitivities and positive predictive values were determined for various direct stimulation amplitudes.

Results: 100 patients were included with an average follow-up of 314 days. Using a stimulus intensity of 0.2 mA at the root exit zone, there was an 80% positive predictive value for a good outcome in patients that exhibited a compound action potential of greater than 10% of maximum, with 96% sensitivity.

Conclusion: The new protocol is a good predictor of long-term facial nerve function.

16:47-16:54 **Investigating Pulsatile Tinnitus: Our Experience with Fifty Patients** – S. Gray, C. Brewis, M. Shakeel, D. McAteer, B. Ram, Aberdeen, Scotland

Learning Objectives

To learn about pulsatile tinnitus, its presentation, associated symptoms, investigation, treatment options including surgical intervention.

After attending our presentation, one should have gained enough knowledge and information to investigate his / her patients with pulsatile tinnitus in an efficient way.

Abstract

Objectives: To share our experience of investigating pulsatile tinnitus (PT) in 50 patients. To identify the best investigation for PT.

Methods: Retrospective chart review of 50 patients who were investigated for their PT at a tertiary care facility over the last 4 years. Data collected include demographics, symptomatology, clinical findings, investigations and treatment. SPSS was used for data collection and analysis.

Results: Of the 50 patients, 36 were female and the mean age of the cohort was 51 years (range 23-78). Investigations used were magnetic resonance imaging (MRI)+magnetic resonance arteriogram (MRA)+magnetic resonance venogram (32), computed tomographic scan (27), magnetic resonance imaging (21) and angiogram (2). Sixteen (32%) patients were found to have some ipsilateral abnormal finding like high jugular bulb (7) with associated dehiscent sigmoid sinus (3), dural fistula (1), glomus tympanicum (1), empty sella syndrome (1) and 4 patients had inferior Cerebellar artery in close proximity to internal auditory meatus. However, 5 patients (10%) had a high jugular bulb on the asymptomatic side.

Conclusions: The patients with PT should be thoroughly investigated and in our experience computed tomography and MRI+MRA are complementary to each other. The causative link between some anatomical abnormalities and PT remain to be established.

16:54-17:00 DISCUSSION

17:00-18:00 WORKSHOP #12

Management of the Unknown Head and Neck Primary in the Era of PET Imaging – R. Hart, S. M. Taylor, J. Trites, Halifax, NS, H. Seikaly, J. Harris, Edmonton, AB, J. Dort, Calgary, AB

Learning Objectives

At the end of the workshop attendees should be able to:

1. Describe the basics of PET imaging.
2. Define the current gold standard for management of the unknown head and neck primary.
3. Elucidate the role of PET imaging in the management of the unknown head and neck primary.
4. Identify a current "best practice" in the management of the unknown primary.

Abstract

Management of the unknown primary in head and neck cancer is a challenging issue. The gold standard for the past several decades has been clinical exam, head and neck imaging, panendoscopy and biopsy +/- tonsillectomy.

With the widespread new use of positron emission tomography (PET), there has been a movement away from the previous gold standard towards directed biopsy based on PET results.

This workshop will illustrate the uses and pitfalls of PET imaging in the unknown head and neck primary through the use of current scientific evidence and illustrative cases as described by a panel of experts.