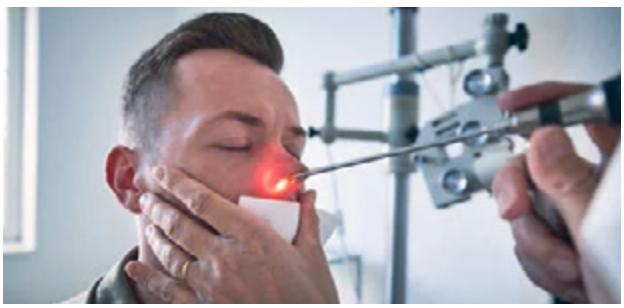
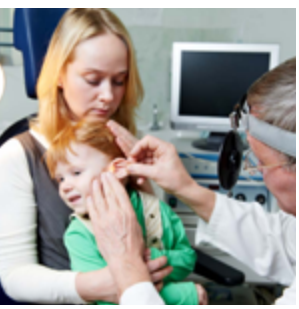
Scientific Tracks & Sessions
May 15, 2023

ENT 2023

10th International Conference on

Otolarngology: ENT Surgery

May 15, 2023 | Webinar

Sessions on: ENT | Otolaryngology | Ear Disorder | Case Report

Session Chair:

Chiara De Luca

University of L'Aquila | Italy

Session Introduction

Title: Artificial Intelligence in a machine learning model for predicting residual and Recurrent

Justin M Pyne | University of Alberta | Canada

Title: Trends in level of evidence in Rhinology research

Alexander Brannan | University of Alberta | Canada

Title: Relationship of step section and accuracy of pathologic diagnosis of Thyroid Cancers

Mohammad Reza Golrokhian Sani | NOSM University | Canada

Title: 'How to stop a nosebleed': A combined objective and subjective assessment of youtube videos on first-aid management of Epistaxis

Haran Devakumar | Broomfield Hospital | UK

Title: Predictive factors for idiopathic sudden sensory neural hearing loss recovery

Mohammed Ahmed Abdelhay Alhussaini | Assiut University | Egypt

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Artificial Intelligence in a machine learning model for predicting residual and Recurrent Head and Neck Cancer

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Introduction: Artificial intelligence (AI) is rapidly gaining traction in the treatment of head and neck squamous cell carcinoma (HNSCC). Combining AI with a convolutional neural network (CNN) may offer increased accuracy when evaluating HNSCC patients. This study aimed to investigate the use of artificial intelligence with neural networks in a machine learning model for the detection of residual and/or recurrent disease in patients treated for HNSCC.

Methods: Subjects were identified by retrospective radiology review at our center from 2010-2019. We included adult patients who have undergone treatment for oropharyngeal HNSCC. Peri-treatment PET-CT images for 60 patients (30 with tumor recurrence and 30 without) were collected and split into two balanced datasets: a 45-patient training set and a 15-patient test set. A neural network was employed to test convolutional layers, Long-Short-Term Memory (LSTM) cells, and fully connected (mixed) layers models. Accuracies were computed and the results of the machine models were compared to the radiologist's interpretations.

Results: Mixed and convolutional layers methods demonstrated similar sensitivity, specificity, and accuracy (0.71, 0.88 and 0.80 respectively), while the LSTM model demonstrated higher sensitivity (0.86) and lower specificity (0.50) and accuracy (0.67). The mixed model yielded a higher area under the curve (AUC) than the convolutional or LSTM models (0.73, 0.70, and 0.48, respectively). Confusion matrices indicated identical classification rates for convolutional and mixed models. The radiologist interpretations were more sensitive (0.90) and had a higher negative predictive value (0.86). Similar F-scores were noted for the mixed model, convolutional model, and radiologist interpretations.

Conclusion: Artificial Intelligence in conjunction with CNN in a machine learning model has a promising future for detecting residual or recurrent disease in HNSCC patients. Further study is underway implementing a larger data set to make the machine learning model more robust, check calibration against a larger cohort of patients, and validate the presented method.

Biography

Justin M. Pyne is an Otolaryngology–Head and Neck Surgery Resident at the University of Alberta in Edmonton, Alberta, Canada. He completed undergraduate degrees in science and medicine at Dalhousie University in Halifax, Nova Scotia, Canada. He will be embarking on a head and neck oncologic and microvascular surgery fellowship at the University of Texas Southwestern in Dallas, Texas, USA this June. He plans to practice as an academic head and neck oncologist following the completion of his training.

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Trends in level of evidence in Rhinology research

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Background: Evidence-based medicine is an integral part of clinical research and practice. The purpose of this study was to assess the trends in the level of evidence in leading Rhinology journals in recent years.

Methods: All scientific articles within the field of Rhinology published in The Laryngoscope, Rhinology, American Journal of Rhinology and Allergy, Otolaryngology–Head and Neck Surgery, and Journal of Otolaryngology–Head and Neck Surgery from 2010, 2014, and 2018 were rated for level of evidence. The number of authors, patient age, study type, sample size, and presence of p-values were also noted.

Results: Of 998 articles reviewed, 71.1% were clinical with 58.3% being treatment studies. Overall, there was an increase in the average level of evidence of articles published from 2010 to 2018. However, the number of articles containing level 1 or 2 evidence remains low. Conclusions: With the increased demand for evidence-based medicine, Rhinology literature has seen an overall increase in the quantity of higher-level evidence research published. However, articles representing level 1 and 2 evidence remain rare. The authors hope that this information may help encourage further high-quality research in Rhinology.

Biography

Alex Brannan is a third-year resident in Otolaryngology-Head and Neck Surgery at the University of Alberta, Edmonton, Canada. Research interests include quality improvement in patient care and hospital resource utilization and in the domains of head and neck and Rhinologic surgery.

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Relationship of step section and accuracy of pathologic diagnosis of Thyroid Cancers

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Objective: This case history shows the significance of the step section to be performed on any Primary follicular neoplasm or extrathyroidal neck mass containing thyroid tissue.

The material for pathologic diagnosis was a neck mass removed from the left tracheoesophageal groove in a 43-year-old lady whose right hemithyroidectomy was performed by the authors fourteen years ago(Mrs.D.).Her previous pathologic report was Follicular Adenoma.

The report on her new pathologic specimen was "benign thyroid tissue." However, this report did not match her previous medical history, and we requested a step section (extensive leveling) to be performed on the specimen. Her final pathologic diagnosis was "near-total replacement of a lymph node by minimally invasive thyroid carcinoma."

She underwent a total thyroidectomy and central neck dissection, followed by our team for seven years, and the disease is utterly controlled. Unfortunately, the minimal capsular invasion was missed in the primary thyroid, leading to secondary lymph node involvement. If the lymph node nearly completely involved with minimal follicular carcinoma was ignored, it could make more extensive involvement. Therefore, step sectioning for every thyroid pathology is crucial to find the minimal invasion of the thyroid capsule.

Biography

Mohammad Reza Golrokhian Sani is an otolaryngologist- Head and Neck surgeon who completed his clinical fellowship in Otology neurotology in 2012 from the University of Toronto. He also completed a master of epidemiology from Lakehead University. He has been chair of continuing Medical Education at NOSM University since 2019 and part of the research committee at this University. As a teacher in medicine, he is always interested in reviewing his previous clinical works and finding his pitfalls to help health promotion. This study is part of his surgeries that allows the young surgeon to ask more questions from their teams to optimize the surgical outcome and decrease the recurrences of diseases. He has more than 20 recent publications in Pubmed. They are all original studies.

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How to stop a nosebleed: A combined objective and subjective assessment of youtube videos on first-aid management of Epistaxis

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Purpose: Online videos are becoming a popular resource for patients seeking healthcare information. A previous study in 2016 found that the quality of YouTube videos on epistaxis first-aid management was highly variable. This study aimed to reassess the quality of such YouTube videos using a standardized checklist for content appraisal and a validated understandability and actionability tool.

Methods: The YouTube platform was searched in August 2022 using the phrase "How to stop a nosebleed", with the results filtered by 'relevance'. The highest 50 ranking videos were screened. Each video was objectively assessed using a standardized checklist of first-aid guidance ('advice score') as well as a subjective assessment of video understandability and actionability using the Patient Education Materials Assessment Tool for Audio-Visual Materials (PEMAT-A/V).

Results: Thirty-two videos were suitable for inclusion. Six videos (19%) were from an accredited institution. The mean advice score was 4.1 out of 8 (SD 1.9). The mean understandability and actionability scores were 76% (SD 17%) and 89% (SD 18%), respectively. There was a strong positive correlation between the actionability scores and the advice scores (ρ=0.634; $p<0.001$), as well as between the actionability scores and the understandability scores (ρ=0.519; p=0.002).

Conclusion: YouTube videos are providing increasingly relevant and accurate advice for patients seeking information on epistaxis first-aid management, with most videos being both understandable and actionable. We propose YouTube can be a useful medium for teaching epistaxis first-aid management to patients and community practitioners when carefully navigated.

Biography

Mohammad Reza Golrokhian Sani is an otolaryngologist- Head and Neck surgeon who completed his clinical fellowship in Otology neurotology in 2012 from the University of Toronto. He also completed a master of epidemiology from Lakehead University. He has been chair of continuing Medical Education at NOSM University since 2019 and part of the research committee at this University. As a teacher in medicine, he is always interested in reviewing his previous clinical works and finding his pitfalls to help health promotion. This study is part of his surgeries that allows the young surgeon to ask more questions from their teams to optimize the surgical outcome and decrease the recurrences of diseases. He has more than 20 recent publications in Pubmed. They are all original studies.

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Predictive factors for idiopathic sudden sensory neural hearing loss recovery

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Background: Idiopathic sudden sensorineural hearing loss (ISSNHL) is considered a clinical symptom of various conditions. Circulatory disorders, viral infection, labyrinthine membrane rupture, and autoimmune reactions are considered as the common causes, but the exact cause remains unestablished. Various drugs and methods have been used empirically for the treatment of ISSHL. The current study aimed at evaluation factors contributing to the success of standardized medical therapy in cases of ISSNHL.

Methods: In period between 2019 and 2021, a total 40 patients with ISSNHL were enrolled. All patients were subjected to history taking, physical and ENT evaluation. Patients were managed according to the recent guidelines for managing ISSNHL included systemic steroid and salvage therapy.

Results: Mean age of studied patients was 42.55 ± 13.14 years with range between 19 and 70 years. Out of the studied patients; 26 (65%) patients were males and 14 (35%) patients were females. Majority (80%) of patients had no comorbidities. Based on the current study, we found that only 12 (30%) patients were improved while 28 (70%) patients were not improved. It was found that majority (58.3%) of improved patients was females. Frequency of vertigo was significantly higher among patients who were not improved. Three (10.7%) patients of not-improved group and 5 (41.7%) patients of improved group had low lymphocyte: monocytes ratio.

Conclusion: Patients with ISSNHL, the presence of vertigo and late onset of presentation may carry a risk for poor prognosis. Multiple centers studies with large number of patients are warranted to confirm such findings

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A rare case of hearing loss at a Patient with "Czech Dysplasia"

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"Czech dysplasia" is an inherited condition that affects joint function and development. It is caused by a particular mutation in the COL2A1 gene which provides instructions for making a protein that forms type II collagen. It is characterized by early-onset, progressive pseudo-rheumatoid arthritis and hypoplasia/dysplasia of the third and fourth metatarsals. Some people have progressive sensorineural hearing loss. This is an extremely rare disease, with only 28 cases described in the medical literature so far.

Case report: Women (55) present with rapidly progressive hearing loss. In her medical history, she is a typical orthopedic patient for many years with both of her hips and knees have been operated on and replaced with a prosthesis. Genetic testing was performed and "Czech dysplasia" was confirmed. Due to the complications of her illness, she has been receiving a lot of antibiotics, including ototoxic ones. Her otoscopic findings were normal. Audiometry testing showed bilateral moderate-severe hearing loss. Hearing aids were advised and the patient was very satisfied with her hearing.

The only dilemma remains whether her hearing loss is a consequence of many ototoxic drugs she has received or is a part of the underlying disease.

Biography

Ana Krivokapic is an ENT specialist, working in primary health care in Belgrade. She has been an active participant in many national conferences and symposiums in Serbia, and international ones in Brussels, Milano, Vienna, etc

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Our Experience in an advanced recurrent Nasopharyngeal Carcinoma

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Purpose/Objective: tTreatment of nasopharyngeal carcinoma is mainly based on radiation therapy, but some tumors do not respond well to radiation therapy, resulting in residual tumors or recurrence. Chemotherapy, surgery and, in some conditions, immunotherapy are currently available for such conditions.

Material/methods: We experienced a 47-year-old female new resident of Vietnamese descent who was diagnosed with nasopharyngeal cancer in 2018 and received concurrent chemoradiation therapy. However, the sphenoid sinus had always had tumor remnants, and the tumor had been successfully eradicated by endoscopic resection and adjuvant chemotherapy.

Results: Unexpectedly, a few months later, the tracking found that there was a metastasis of the pterygopalatine fossa which gradually spread to the infratemporal fossa. Because the patient's conditions cannot meet the health insurance criteria for immunotherapy, the targeted therapy was used with radiation therapy. The tumor was still unable to be effectively controlled, so a trans pterygoid endoscopic tumor resection was arranged plus postoperative adjuvant chemotherapy. However, the tumor continued to proliferate and spread over several months, eventually taking palliative treatment.

Conclusion: For the recurrence of nasopharyngeal cancer in late stages, surgery or chemoradiation are always topics worth discussing. And according to the literature, the role of surgical management on rT3 disease is equivocal, which truly reflects the condition we met. So patient selection is pivotal.

Biography

Teng Chin W. completed his MD at the age of 26 years from Chung Shan Medical University, Taiwan. He is the director of the Department of Otorhinolaryngology, at Tainan municipal hospital, Taiwan. He is a member of the Taiwan Rhinology Society and the Taiwan Academy of Allergy Asthma and Clinical Immunology.

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Diseases of the nose and paranasal sinuses in patients with chronic renal failure

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Among the urgent tasks of modern practical otorhinolaryngology, the issues of improving the efficiency of diagnosis and treatment of inflammatory diseases of the nose and paranasal sinuses occupy one of the leading places.

Patients and methods: This cross-sectional study was conducted over a 6-month duration to evaluate the frequency of nasal affection among 68 prevalent hemodialysis patients. Eligibility criteria were age more than or equal to 18 years, patients were scheduled on regular thrice-weekly 4 h sessions of conventional hemodialysis, and adequate hemodialysis sessions more than 6 months before the study with a standard bicarbonate-containing dialysate, using biocompatible hemodialysis polysulfone low-flux dialyzer and heparin as an anticoagulant. We excluded any patients who had diabetes mellitus, active autoimmune disease, advanced liver disease, or malignancy. Moreover, patients with previous nasal or sinus diseases were excluded. All patients were subjected to full history and clinical examination with emphasis on demographic features, smoking, the etiology of renal failure, dialysis duration, vascular access, drug history, history of any diagnosed hereditary or acquired comorbidities, BMI, and blood pressure. ENT examination included close observation of any external nasal swellings, deformities, nasal versus mouth breathing, the color of the nasal mucosa, edema, hypertrophy, polyps, granulations, deviated or perforated nasal septum, discharge, or bleeding. Computed tomography (CT) nose and sinus was done only if indicated, as in patients with epistaxis, nasal obstruction, and recurrent sinusitis.

Results of research: A total of 68 eligible hemodialysis patients (35 males and 33 females), with a mean age of 52.1 ± 13.3 years and a mean hemodialysis duration of 7.9 ± 5.58 years were included. The causes of renal failure were hypertension in 21 (30.9%) patients, chronic pyelonephritis in 11 (16.17%), amyloidosis in two (2.9%), analgesic nephropathy in seven (10.3%), lupus nephritis in two (2.9%), chronic obstructive uropathy in seven (10.3%), polycystic kidney in three (4.4%), and 15 (22.1%) patients of unknown etiology. Associated risk factors noticed in our studied patients are as follows: 16.2% of patients were smokers, 22 (32.4%) patients were hypertensive, and 26 (38.2%) patients with seropositive HCV. The parameters of the adequacy of hemodialysis were the mean urea reduction ratio of 66.63 ± 10.21% and mean Kt/V of 1.37 ± 0.26 were parameters of the adequacy of hemodialysis. Regarding medications, calcium dose (mg/day) had a mean of 2363.2 ± 950.3, the mean of vitamin D dose (mg/week) was 0.92 ± 1.02, and the mean of erythropoietin dose (IU/kg/week) was 53.4 ± 35.47. Nasal mucosa was normal in 45.6% of patients, whereas 44.1% of the patients experienced dry nasal mucosa. Only 10.3% of the patients had congested nasal mucosa. Inferior nasal turbinates in most of our patients (44.1%) were pale, whereas were normal in 35.3% and were hypertrophied in 13.2%. Frustrations were found only in 7.4% of patients in the inferior turbinates, although they were found in nearly the double percentage in the nasal septum (14.7%). Most studied patients (77.9%) had normal nasal septum, whereas the most significant finding observed was nasal septum crustations in 14.7% of patients and to a lesser extent the nasal septum deviation and ulceration, with 2.9% each. Only one (1.5%) patient had nasal septum perforation.

Most patients did not give a past history of epistaxis (94.1%). The mean hemoglobin level in patient with no evident epistaxis was 10.5 ± 1.7 g/dl versus 9.2 ± 1.6 g/dl in patients with epistaxis, with a P value more than 0.05. The correlation between epistaxis and all parameters was statistically nonsignificant, except for sex, as none of our male patients experienced epistaxis during our study (P = 0.034). Logistic regression analysis, after applying the forward method and entering some predictor variables such as the increase in disease duration, hemodialysis duration, smoking, and ferritin, shows an independent effect on increasing the probability of nasal mucosa abnormalities occurrence, with the significant statistical difference (P < 0.05 each). Logistic regression analysis, after applying the forward method and entering some predictor variables such as the decrease in transferrin saturation and albumin, shows an independent

effect on increasing the probability of epistaxis occurrence, with a significant statistical difference ($P < 0.01$ each).

Discussion: Uremic patients display a bleeding diathesis that is primarily due to hemostasis abnormalities, particularly platelet dysfunction and impaired platelet-vessel wall interaction. These patients, however, have a high prevalence of cardiovascular and thrombotic complications, despite the reduced platelet function. Bleeding has been reported in 40–50% of patients with CRF or on hemodialysis. A hospital-based study showed that the risk of attacks of bleeding increased twice in patients with renal failure. Moreover, the removal of uremic toxins after hemodialysis has been shown to improve platelet abnormalities, resulting in a reduced risk of bleeding. These results may match our finding, as only 5.9% of our patient's experienced epistaxis.

Patients with advanced renal failure may show clinical manifestations that affect both the hard and soft tissues. Occasionally, these manifestations may be owing to therapeutic measures that include the following: fluid restrictions; dietary changes; adverse effects of some medications; including antihypertensives, painkillers, diuretics, antidepressants, and anti-inflammatory drugs, which are commonly used in these patients; and dialysis and/or kidney transplantation patients. One of these mucosal manifestations is dryness. In this study, we observed that the most common nasal manifestations in patients with CRF on regular dialysis are dry nasal mucosa and pale inferior nasal turbinates (44.1% each).

The second common nasal manifestation found in this study is the nasal septum crustations (14.7%), and then hypertrophied inferior nasal turbinates (13.2%), followed by congested nasal mucosa (10.3%). Crustations were founded in 7.4% of the inferior nasal turbinates of our patients, and nasal septal ulceration was found in 2.9%.

Conclusions: The most common ENT manifestations were dry nasal mucosa and pale inferior nasal turbinates and to a lesser extent crustations on both the nasal septum and inferior nasal turbinates. The incidence of epistaxis has been reduced in patients with CRF on regular hemodialysis. Nasal septal ulceration and perforation are the least common ENT manifestation. No cases of olfactory neuropathy were reported in our study. Patients with CRF on hemodialysis should keep their nasal mucosa wet using regular saline irrigation and moisturizing agents such as gel and ointments. Correction of anemia and regular hemodialysis helps in decreasing bleeding tendency in uremic patients.

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