Pan Arab Rhinology Society
PARS Reader's Digest

Reader Digest

Digested by Dr. Tarek Kandil, MD. ENT Consultant, students Hospital, Cairo University

Introduction

This newsletter is intended to provide information that is useful to the student and specialist in the field of rhinology and allergic disorders.

The selected recent material represents important fundamental knowledge, current trends or recent developments in this field.

We hope that this newsletter will help the reader have a greater understanding of rhinology and allergic disorders

1. Evaluation of the factors affecting the necessity for revision surgery in choanal atresia

Levent Aydemir 1, Comert Sen 2, Hakan Kara 2, Saim Pamuk 2, Mustafa Caner Kesimli 3, Senol Comoglu 2, Meryem Nesil Keles Turel 2

Abstract

Objective: This study aims to compare the effects of different surgical techniques for congenital choanal atresia (CCA), and particular emphasis is given to the analysis of the factors affecting the surgical outcome. The necessity for revision surgery and surgical outcomes were retrospectively investigated in patients undergoing revision surgery according to a recently proposed classification system.

Material and method: A retrospective study was conducted on patients operated for CCA between January 2007 and December 2018 at a university hospital. Data in the medical records, including patient age when the initial surgery was performed, gender, additional anomalies and medical conditions, the duration of gestation, side and type of atresia, type of surgery and need for revision surgery were reviewed.

Results: Forty-five patients treated for CCA in our university hospital were screened. The mean follow-up duration was 82.16 months. Revision surgery was required in 9 of 26 cases, which are included in the study (34.6%). Fourteen patients presented with bilateral CCA, while 12 were unilateral cases. Sixteen patients (61.5%) had comorbid medical conditions. While the removal of vomer and mucoperiosteal flap use affects successful surgical repair, no differences were

observed in choanal atresia type, laterality, use of stent and the presence of additional medical conditions.

Conclusion: The most important factors affecting surgical success for CCA are the removal of the vomer and closure of all bare bone tissues using a mucoperiosteal flap. Use of stents provides no additional benefit, apart from preventing synechiae formation.

Int J Pediatr Otorhinolaryngol. 2021 Dec;151:110929.

2. Clinical and radiographic predictors of the need for facial CT in pediatric blunt trauma: a multi-institutional study

Brittany N Nguyen 1, Mary J Edwards 2, Shachi Srivatsa 3, Derek Wakeman 4, Thais Calderon 4, Abdularouf Lamoshi 5, Kim Wallenstein 6, Tiffany Fabiano 7, Brittany Cantor 7, Kathryn Bass 8, Ananth Narayan 9, Ralph Zohn 10, Mitchell Chess 11, Richard D Thomas 12

Abstract

Background: Facial injuries are common in children with blunt trauma. Most are soft tissue lacerations and dental injuries readily apparent on clinical examination. Fractures requiring operative intervention are rare. Guidelines for utilization of maxillofacial CT in children are lacking. We hypothesized that head CT is a useful screening tool to identify children requiring dedicated facial CT.

Methods: We conducted a multicenter retrospective review of children aged 18 years and under with blunt facial injury who underwent both CT of the face and head from 2014 through 2018 at five pediatric trauma centers. Penetrating injuries and animal bites were excluded. Imaging and physical examination findings as well as interventions for facial fracture were reviewed. Clinically significant fractures were those requiring an intervention during hospital stay or within 30 days of injury.

Results: 322 children with facial fractures were identified. Head CT was able to identify a facial fracture in 89% (287 of 322) of children with facial fractures seen on dedicated facial CT. Minimally displaced nasal fractures, mandibular fractures, and dental injuries were the most common facial fractures not identified on head CT. Only 2% of the cohort (7 of 322) had facial injuries missed on head CT and required an intervention. All seven had mandibular or alveolar plate injuries with findings on physical examination suggestive of injury.

Discussion: In pediatric blunt trauma, head CT is an excellent screening tool for facial fracture. In the absence of clinical evidence of a mandibular or dental injury, a normal head CT will usually exclude a clinically significant facial fracture.

Trauma Surg Acute Care Open. 2022 Apr 24;7(1):e000899.

3. A retrospective review of spontaneous epistaxis outcomes for patients on novel oral anticoagulants compared to antiplatelets and warfarin

Grace Maina 1, Eng Ooi 2

Abstract

Aims: The incidence of epistaxis-related admissions amongst elderly patients is rising due to the increasing use of anticoagulants and antiplatelet agents. This retrospective study evaluates the differences in outcomes for patients on warfarin, novel anticoagulants (NOACs) and antiplatelets over two different time periods.

Methodology: Retrospective case-control study with data from patients admitted with epistaxis through the Flinders Medical Centre Emergency Department in the first six months of 2013 and compared to the same period in 2018. The latter coincides with integration of NOACs into Australian prescribing practices. Included participants were ≥50 years with spontaneous epistaxis which coincides with peak incidence in adults. Exclusion criteria were epistaxis due to trauma, intrinsic coagulopathy, or recent post-surgery. Linear regression and binary logistic regression models were the statistical methods used.

Results: Data from 85 patients were analysed for length of stay (LOS), readmission rates and method of haemostasis. In 2013, 41 patients were included compared to 44 in 2018, suggesting a 7% increase in admissions rates but this was not statistically significant ($p = 0.96$). The proportion of patients admitted with epistaxis while taking an anticoagulant or antiplatelet agent increased from 66% in 2013 to 93% in 2018. Thirty six percent of patients in 2018 were taking NOACs, however, LOS was 2 times shorter (mean ratio = 2.08 days, 95% CI: 1.03, 4.19). Seven percent of patients in 2018 had bleeding requiring surgery or interventional radiology, compared to 12% in 2013, but this was not statistically significant. There was no statistically significant difference in readmission rates ($p = 0.82$) or intervention required ($p = 0.74$) between the two time periods.

Conclusions: Epistaxis admissions at our institution have increased since the introduction of NOACs. However, most patients can be managed successfully with intranasal packing and cautery alone. NOACs are not associated with increased rated of invasive haemostatic measures and patients have a shorter LOS

Am J Otolaryngol . Jul-Aug 2022;43(4):103488

4. Diagnosis and Management of Barosinusitis: A Systematic Review

Tiffany Chen 1, Shivani Pathak 2, Ellen M Hong 1, Brian Benson 1 3, Andrew P Johnson 2, Peter F Svider 3 4

Abstract

Objective: To perform a systematic review to investigate the common presenting symptoms of barosinusitis, the incidence of those findings, the methods for diagnosis, as well as the medical and surgical treatment options.

Methods: A review of PubMed/MEDLINE, EMBASE, and Cochrane Library for articles published between 1967 and 2020 was conducted with the following search term: aerosinusitis OR "sinus squeeze" OR barosinusitis OR (barotrauma AND sinusitis) OR (barotrauma AND rhinosinusitis). Twenty-seven articles encompassing 232 patients met inclusion criteria and were queried for demographics, etiology, presentation, and medical and surgical treatments.

Results: Mean age of patients was 33.3 years, where 21.7% were females and 78.3% were males. Causes of barotrauma include diving (57.3%), airplane descent (26.7%), and general anesthesia (0.4%). The most common presentations were frontal pain (44.0%), epistaxis (25.4%), and maxillary pain (10.3%). Most patients received topical steroids (44.0%), oral steroids (28.4%), decongestants (20.7%), and antibiotics (15.5%). For surgical treatment, most patients received functional endoscopic sinus surgery (FESS) (49.6%). Adjunctive surgeries include middle meatal or maxillary antrostomy (20.7%), septoplasty (15.5%), and turbinate surgery (9.1%). The most efficacious medical treatments are as follows: 63.6% success rate with oral steroids (66 treated), 50.0% success rate with topical steroids (102 treated), and 50.0% success rate analgesics (10 treated). For surgical treatments received by greater than 10% of the sample, the most efficacious was FESS (91.5% success rate, 108 treated).

Conclusion: Oral and topical steroids should be first line therapies. If refractory, then functional endoscopic sinus surgery is an effective treatment.

Ann Otol Rhinol Laryngol. 2022 Feb 8;34894211072353.

5. Allergic and nonallergic rhinitis

Neha T Agnihotri, Kris G McGrath

Abstract

Rhinitis is characterized by nasal congestion, rhinorrhea, sneezing, and/or posterior nasal drainage. It affects a significant portion of the population and presents a large burden economically and on quality of life. Rhinitis is broadly characterized as allergic and nonallergic, of which nonallergic rhinitis may be divided into inflammatory and noninflammatory etiologies. The inflammatory causes include nonallergic rhinitis with eosinophilia, postinfectious, and rhinitis associated with nasal polyps. The noninflammatory causes include idiopathic nonallergic (vasomotor) rhinitis, medication-induced rhinitis, hormone related (e.g., pregnancy), and systemic disease related. Allergic rhinitis is classified as intermittent or persistent and mild versus moderate-severe. The nasal mucosa is extremely vascular; parasympathetic stimulation promotes an increase in nasal cavity resistance and nasal gland secretion, whereas sympathetic stimulation leads to vasoconstriction. The diagnosis of rhinitis begins with a directed history, particularly noting pattern, chronicity, and triggers of symptoms. Examination of the nasal cavity with attention to appearance of the septum and inferior turbinates is recommended. Skin testing for aeroallergens is helpful in demonstrating the presence or absence of immunoglobulin E antibodies and to differentiate nonallergic from allergic rhinitis. Treatment includes patient education, irritant or allergen avoidance, and pharmacotherapy. Medications used for the treatment of rhinitis include intranasal corticosteroids, oral and intranasal antihistamines, intranasal anticholinergic agents, oral decongestants, and leukotriene receptor antagonists. When used in combination, an intranasal antihistamine spray and nasal steroid provide greater symptomatic relief than monotherapy. Allergen immunotherapy is the only disease-modifying intervention available for allergic rhinitis.

Allergy Asthma Proc. 2019 Nov 1;40(6):376-379.

6. Rhino-Orbital-Cerebral Mucormycosis in a Young Diabetic Patient with COVID-19 in Ethiopia: A Case Report

Fikremariam Melkeneh Alemayehu 1, Hannibal Kassahun Abate 2, Tariku Assefa Soboka 3, Dawit Kebede Huluka 4, Alemayehu Bedane Worke 5, Mahlet Tsegaye Abrie 6, Dawit Kebebaw Dibaba 7, Yilkal Birhanu Asnake 8

Abstract

Background: There has been a rise in secondary invasive fungal infections reported in COVID-19 patients globally. We report the first published case of COVID-19 associated rhino-orbital-

cerebral mucormycosis in Africa in a newly diagnosed diabetic female who presented with diabetic ketoacidosis (DKA) and discuss the prevalence and risk factors of fungal co-infection with the clinical presentation, diagnosis, and management of mucormycosis in COVID-19.

Case presentation: A 39 years old female patient was admitted to ICU with a diagnosis of severe COVID-19 and newly diagnosed diabetes mellitus (DM) with DKA based on HgbA1c of 13.8% and positive RT-PCR. The patient was treated with dexamethasone in line with evidence in the RECOVERY trial and developed right facial and orbital swelling on her second hospital day. Brain MRI showed characteristic peri-sinonasal invasion with central nervous system (CNS) involvement, features suggestive of invasive fungal infection. Despite all medical and surgical treatments including liposomal amphotericin B and debridement, the patient died within 7 days of symptom onset.

Conclusion: Clinicians should be aware of the potential for Rhino-Orbital-Cerebral Mucormycosis (ROCM) as a complication of COVID-19, especially in steroid taking diabetics who develop periorbital swelling and sinusitis. Timely diagnosis and multidisciplinary treatment are very critical

Int Med Case Rep J. 2022 May 19;15:251-257.

7. The Endoscopic Management of Different Pediatric Frontal Sinus Pathologies

Ali Almomen 1, Zainab Alshuhayb 2, Hussain Alsheef 3, Salma Alhammad 3, Balsam Alawami 3, Amirah Aldhurais 3, Hussain Almulla 3, Zahra Almoumen 1, Sarah Alkishi 4

Abstract

Background: The paranasal sinuses in pediatrics can harbor a wide variety of pathologies. With the present literature being composed of case studies only, this entity is quite understudied.

Objectives: This article aims to study the clinical presentation, diagnosis, and endoscopic management of six different rare frontal sinus pathologies in pediatrics, which include extensive allergic fungal sinusitis, mucoceles, osteoma, superior sagittal sinus thrombosis, CSF leak, and subdural empyema.

Methods: We retrospectively studied all pediatric patients with frontal sinus pathologies presenting to our center, King Fahad Specialist Hospital, Dammam, Saudi Arabia, from the period of 2006 to 2020.

Results: A total of 8 patients presented to our hospital with different frontal sinus pathologies. 5 of them were males, and 3 were females with an age of presentation ranging from 7 to 17 years. The diagnosis and localization were performed through computerized tomography without

contrast and magnetic resonance imaging, when indicated. All cases were primarily managed with endonasal endoscopic approaches successfully without complications and with no recurrence evident upon follow-up.

Conclusion: In this case series, six different frontal sinus pathologies were managed by an endoscopic approach, with excellent recovery and no recurrence upon follow-up demonstrated. This approach enabled excellent visualization of the pathologies, accurate localization, adequate drainage, and repair or grafting when needed.

Int J Otolaryngol. 2022 Feb 10;2022:1078178.

8. Clinical outcomes of coblation-assisted pediatric endoscopic endonasal skull base surgery

Shixian Liu 1, Ru Tang 1, Song Mao 1, Weitian Zhang 2

Abstract

Background: Pediatric skull base surgeries are confined by developmental and anatomical issues. Radiofrequency coblation integrates the functions of ablation, suction, and coagulation with the ability to dissolve tissues with limited thermal injury, making it an ideal instrument for pediatric skull base surgery. We sought to evaluated the clinical outcomes of coblation-assisted pediatric endoscopic skull base surgery.

Methods: Medical records of patients under 15 years of age undergoing endoscopic skull base surgery were retrospectively reviewed. The estimated blood loss (EBL)/operating time (OT) and Wormald grade were used for intraoperative blood loss grading.

Results: Generally, 28 patients (17 males, 11 females) with an average age of 8.4 ± 4.2 years, (range, 11 months to 15 years old) were included. Coblation was applied in 20 patients for mucosa coagulation and handling, cartilage removal, tumor separation and excision. The primary diagnoses included juvenile nasopharyngeal angiofibroma (n = 5), traumatic cerebrospinal fluid (CSF) leak (n = 6), congenital meningoencephalocele (n = 6) and miscellaneous sinonasal and skull base neoplasm (n = 11). The application of coblation was related with a significant decrease in EBL/OT (34.1 ± 17.5 vs 56.3 ± 22.6 ml/h, p = 0.048) and Wormald grade (5.7 ± 1.5 vs 6.9 ± 2.0, p = 0.038), compared with the traditional techniques. All surgical procedures were uneventful. No significant difference in postoperative complications, including cranial nerve dysfunction and CSF rhinorrhea were documented during the follow-up period (average, 34.7 ± 4.4 months).

Conclusion: We suggested the coblation be a safe and effective instrument for pediatric skull base surgery

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9. Sinonasal Inverted Papilloma and Squamous Cell Carcinoma: Contemporary Management and Patient Outcomes

Jacob G Eide 1, Kevin C Welch 2, Nithin D Adappa 1, James N Palmer 1, Charles C L Tong 1

Abstract

Inverted papillomas (IP) are the most common sinonasal tumor with a tendency for recurrence, potential attachment to the orbit and skull base, and risk of malignant degeneration into squamous cell carcinoma (SCC). While the overall rate of recurrence has decreased with the widespread adoption of high-definition endoscopic optics and advanced surgical tools, there remain challenges in managing tumors that are multiply recurrent or involve vital neurovascular structures. Here, we review the state-of-the-art diagnostic tools for IP and IP-degenerated SCC, contemporary surgical management, and propose a surveillance protocol

Cancers (Basel). 2022 Apr 28;14(9):2195.

10. Non-surgical Interventions for Pituitary Lesions

Nisha Suda 1

Abstract

There have been numerous advancements in the variety of nonsurgical therapies available to achieve control of pituitary tumor size and hormone production. Medical therapies may target the pituitary tumor directly or the downstream hormonal pathways and receptors. Combination therapies may further improve clinical outcomes. Radiotherapy has a slower onset of action, which can hamper its use

Otolaryngol Clin North Am. 2022 Apr;55(2):287-304.