Pan Arab Rhinology Society
PARS Reader's Digest

Reader Digest

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

1. Endonasal endoscopic surgery of choanal atresia - long term results.

Holtmann L1, Stähr K1, Kirchner J2, Lang S3, Mattheis S4.

Abstract

INTRODUCTION:

Choanal atresia is a rare abnormality. As neonates depend on transnasal respiration, bilateral choanal atresia causes an acute emergency. Transnasal endoscopic resection of congenital choanal atresia is a well-established therapy. However, the surgical technique has not yet been standardized.

METHODS:

A retrospective chart review was performed with a follow-up examination between 9 to 87 months after surgery. 11 patients (7 with unilateral atresia, 4 with bilateral atresia) were included. The choana was opened and enlarged endoscopically by resection of the posterior septal wall and bony reduction up to skull base and nasal floor. Intraoperative handling, intra- and postoperative complications, restenosis and adequate respiratory function were assessed.

RESULTS:

No intraoperative complications could be observed. Three premature babies underwent surgical intervention within their first postnatal week with an average weight of 2540 g. 2/11 patients suffered from a minor episode of epistaxis as a postoperative complication. Long-term success without restenosis was 73 % (for unilateral atresia) and 100 % for bilateral (atresia).

CONCLUSIONS:

Choosing an endonasal endoscopic approach to resect choanal atresia via resection of the posterior septal wall and circular bony reduction is a successful therapy with low morbidity.

Laryngorhinootologie. 2018 Feb 8.

2. 3D reconstruction images of cone beam computed tomography applied to maxillofacial fractures: A case study and mini review.

Bai L1,2,3, Li L1,2,3, Su K1,2,3, Bleyer A4, Zhang Y5, Ji P1,2,3.

Abstract

Maxillofacial injuries can be complex and are clinically important due to their functional and cosmetic significance. Maltreated and missed fractures might cause deformity of the face; thus, accurate evaluation of the fracture provided by X-ray images is critical. In this study, we explore the application of cone-beam computed tomography (CBCT) for diagnosis of severe maxillofacial traumas. A patient with a complex fracture that affects the maxilla, mandible, wall of the maxillary sinus, zygoma, zygomatic arch and nasal bone was diagnosed using 3D reconstruction of CBCT images. This diagnostic approach provides detailed information obtained by static images and a systematic model with unique advantages for the following pre-surgical evaluation, surgical treatment and prognostic assessment of complex maxillofacial fractures.

J Xray Sci Technol. 2018;26(1):115-123

3. Management of severe and/or refractory epistaxis.

García-Cabo P1, Fernández-Vañes L2, Pedregal D2, Menéndez Del Castro M2, Murias E3, Vega P3, Llorente JL2, Rodrigo JP2, López F2.

Abstract

OBJECTIVE:

The objective was to determine the results of the treatment of severe and/or refractory epistaxis requiring hospital admission. In addition, the results of arterial ligation versus embolization were compared.

MATERIAL AND METHOD:

Sixty-three patients with severe and/or refractory epistaxis requiring hospital admission between August 2014 and December 2016 were included prospectively.

RESULTS:

Eleven patients (17%) underwent embolization, 5 (8%) endoscopy ligation and the remaining 47 (75%) underwent conservative treatment with tamponade. The mean age of the patients in which conservative measures were sufficient was 72 years, while the age of those treated with

embolization was 71 years and of those who underwent surgery was 53 years. For the patients who underwent conservative treatment or surgery, the average stay was 6 days, compared to 9 days for those who underwent embolization. One patient suffered a hemispheric stroke after embolization. No post-surgical complications were observed.

CONCLUSIONS:

Most cases of severe and/or refractory epistaxis are resolved by conventional tamponade. Endoscopy ligation is associated with a decrease in hospital stay, without serious complications. It is advisable to have all the possible therapeutic options available, for which the presence of interventional radiologists and experienced surgeons is essential to avoid complications and decide the treatment to be performed individually for each patient.

Acta Otorrinolaringol Esp. 2018 May 18.

4. The association of air pollutants and allergic and nonallergic rhinitis in chronic rhinosinusitis.

Mady LJ1, Schwarzbach HL2, Moore JA1, Boudreau RM3, Kaffenberger TM1, Willson TJ4, Lee SE1.

Abstract

BACKGROUND:

There has been little investigation regarding air quality and rhinitis in the pathophysiology of upper airway disease. In this study, we assessed the impact of inhalant pollutants (particulate matter 2.5 [PM2.5] and black carbon [BC]) on allergic rhinitis and chronic rhinosinusitis (CRS) disease severity.

METHODS:

CRS patients with nasal polyps (CRSwNP) and without polyps (CRSsNP) were identified. Spatial modeling from pollutant monitoring sites was used to estimate exposures for patients meeting the inclusion criteria (total, n = 125; CRSsNP, n = 67; CRSsNP, n = 58). Skin-prick, intradermal dilutional, and in-vitro testing methods were utilized to determine aeroallergen sensitization. Disease severity indicators were measured by modified Lund-Mackay score (LMS), the 22-item Sino-Nasal Outcome Test (SNOT-22), systemic steroid therapy, and number of functional endoscopic sinus surgeries (FESS).

RESULTS:

Thirty-six percent (n = 45) of patients who described rhinitis symptoms demonstrated no reactivity to aeroallergen testing. Sixty-four percent (n = 80) tested positive for at least 1

allergen, with no differences found between CRSsNP and CRSwNP (62.1% vs 67.2%). There were significant differences in air pollutants between patients testing negative and positive for allergies (nonallergic vs allergic: PM2.5 , 11.32 vs 11.07 μg/m3 , p = 0.030; BC, 0.81 vs 0.76 absorbance, p =0.044). Nonallergic CRSwNP demonstrated higher PM2.5 compared with allergic counterparts (11.48 vs 11.09 μg/m3 , p = 0.032). A similar pattern was observed with BC (0.82 vs 0.75 absorbance, p = 0.017). In CRSsNP, BC correlated significantly with SNOT-22 (r = 0.55, p = 0.042).

CONCLUSION:

Our results suggest that small inhalant pollutants may contribute to nonallergic symptomatology in patients with and without nasal polyps. Regardless of allergy status, BC may play a role in CRS symptom severity

Int Forum Allergy Rhinol. 2018 Mar;8(3):369-376.

5. Recurrences of surgery for antrochoanal polyps in children: A systematic review.

Galluzzi F1, Pignataro L2, Maddalone M3, Garavello W4.

Abstract

OBJECTIVES:

The main purpose was to evaluate the recurrence rate after surgery for antrochoanal polyps (ACPs) in children; secondly, we have analyzed the rate of recurrence for different types of surgery and the risk factors involved.

METHODS:

We performed a systematic review searching PubMed and MEDLINE databases including English-language published studies from June 1989 to October 2017 regarding surgical treatment of ACPs in children.

RESULTS:

We included thirteen studies, eight were retrospective and five prospective, with 285 participants, the mean rate of recurrence after ACPs surgery was 15.0% (95% CI:11.0-20.0). Functional endoscopic sinus surgery (FESS) was the main type of surgery used for primary cases (75.4%) followed by the combined approach i.e. FESS with a transcanine sinusoscopy or mini Caldwell-Luc (14%), the Caldwell-Luc (CWL) (8%) and simple polypectomy (SP) (2.8%). Our analysis has demonstrated a significant reduction of recurrences using the combined approach

0% (95% CI: 0.0-8.0) compared with FESS 17.7% (95% CI: 12.8-23.4) or SP 50% (95% CI:15.7-84.3) ($p < .05$) but no significant differences with CWL 9.1% (95% CI: 1.1-29.2) and others surgical approaches ($p > .05$). The analysis of the possible risk factors involved in recurrences are inconclusive.

CONCLUSION:

Recurrences of ACPs in children are still high. The endoscopic sinus surgery is considered the first choice for primary treatment, whilst the external approach may be a valid option in case of recurrence. It seems that the combined approach could reduce recurrence rates in selected patients that cannot be completely managed with endoscopy

Int J Pediatr Otorhinolaryngol. 2018 Mar;106:26-30.

6. Fungi-Induced Upper and Lower Respiratory Tract Allergic Diseases: One Entity.

Barac A1,2, Ong DSY3,4, Jovancevic L5,6, Peric A7, Surda P8, Tomic Spiric V2,9, Rubino S10.

Abstract

Introduction:Aspergillus can cause different allergic diseases including allergic bronchopulmonary aspergillosis (ABPA) and allergic fungal rhinosinusitis (AFRS). ABPA is allergic pulmonary disease against Aspergillus antigens. AFRS is a type of chronic rhinosinusitis (CRS) presented as hypersensitivity reactions to the fungal presence in sinuses. The aim of the present study was to clarify if ABPA and AFRS could be considered as a common disease entity. **Methodology:** The prospective cohort study included 75 patients with ABPA. Patients were divided into two groups and compared with each other: (i) patients with CT confirmation of rhinosinusitis and presence of fungi in sinuses (ABPA+AFRS group) and (ii) patients without CT or without mycological evidence of AFRS (ABPA group). **Results:** Findings of this study were: (i) AFRS was confirmed in 80% of patients with ABPA; (ii) all ABPA+AFRS patients had allergic mucin while fungal hyphae were present in 60% sinonasal aspirate; (iii) ABPA+AFRS patients had more often complicated CRS with (nasal polyps) NP ($p < 0.001$) and more severe forms of CRS; (iv) culture of sinonasal aspirate revealed fungal presence in 97% patients with ABPA+AFRS; (v) patients with ABPA+AFRS had more common positive skin prick test (SPT) for A. fumigatus ($p = 0.037$), while patients without AFRS had more common positive SPT for Alternaria alternata and Penicillium notatum ($p = 0.04$ and $p = 0.03$, respectively); (vi) 67% of ABPA patients had Aspergillus induced AFRS; (vii) larger number of fungi was isolated from the air-samples obtained from homes of patients with ABPA+AFRS than from the homes of patients without AFRS, while the most predominant species were A. fumigatus and A. niger isolated from almost 50% of the air-samples. **Conclusion:** The pathogenesis of ABPA and AFRS

is similar, and AFRS can be considered as the upper airway counterpart of ABPA. Fungi-induced upper and lower respiratory tract allergic diseases present common entity. Next studies should clarify the mechanism by which fungi turn from "normal flora" into trigger of immunological reactions, resulting in ABPA or AFRS as well as to find new approaches for its' diagnosis and treatment.

Front Microbiol. 2018 Apr 3;9:583.

7. Juvenile nasopharyngeal angiofibroma: comparison between endoscopic and open operative approaches.

Garofalo P1, Pia F, Policarpo M, Tunesi S, Valletti PA.

Abstract

BACKGROUND AND AIM:

Juvenile nasopharyngeal angiofibroma (JNA) is a rare vascular and fibrous tumor that most commonly affects males in prepuberal and adolescent age. Traditionally, these tumors have been removed, after selective embolization, with the open surgical approach (degloving), but the interest in the endoscopic resection, especially for small tumors, has increased in recent years. To present our experience of JNA management, comparing the endoscopic approach and open/combined approach.

MATERIALS AND METHODS:

We conducted a retrospective, cross-sectional, and descriptive study of 12 young men, ages between 9 and 19 years (mean: 13), suffering from nasopharyngeal angiofibroma and treated with open surgery (N = 6), with endoscopic excision (N = 5) or with combined approach (N = 1). We reviewed demographical data, clinical presentation, surgical approach as well as time of surgery, of hospitalization, need of blood transfusion during surgery, and complications occurred during hospitalization.

RESULTS:

All JNA patients were male. The average age at diagnosis was 13.7 years (range 9-19 years). Approximately, 8.3% were classified as Önerci I, 41.7% as Önerci II, and 50.0% as Önerci III. Preoperative embolization was carried out in all patients. All patients were submitted to primary surgical resection, and 2 of them required intraoperative blood transfusion. The overall recurrence rate was 8.3% and the cure rate was 100%.

CONCLUSION:

This study confirmed that endoscopic approach gives excellent results in small and medium dimensions tumors, whereas open surgery remains a safe procedure for patients with larger tumors.

J Craniofac Surg. 2015 May;26(3):918-821.

8. Clinical features of nasal and sinonasal inverted papilloma associated with malignancy.

Miyazaki T1, Haku Y2, Yoshizawa A2, Iwanaga K2, Fujiwara T2, Mizuta M2, Yoshida A2, Satou S2, Tamaki H2.

Abstract

OBJECTIVE:

Nasal and sinonasal inverted papilloma (IP) are rare benign tumors and have the potential to exhibit malignancy in approximately 10% of cases. This study aimed to analyze the clinical features of IP associated with malignancy. Furthermore, we reviewed our therapeutic strategy and the clinical course of malignant IP.

METHODS:

Overall, 70 patients with IP at our institution were retrospectively analyzed from April 2006 to December 2015; of these, six (9%) had associated malignancy. Data was collected on sex, age, presenting symptoms (nasal bleeding, rhinorrhea, facial or cheek pain, and nasal obstruction), bone destruction, and extent of disease on CT and MRI. Categorical data of patients with and without malignancy were compared using the chi-square test. A p value of <0.05 was considered statistically significant. Our therapeutic strategy for IP with malignancy, particularly the surgical procedure, i.e., the external incision or the endoscopic nasal approach, varied based on when the carcinoma was detected. In addition, we considered postoperative radiation therapy depending on histological examination.

RESULTS:

Nasal bleeding ($p<0.001$), pain ($p=0.040$), bone destruction ($p<0.001$), and extent of disease ($p=0.026$) on CT and MRI findings were significantly associated with malignancy. Carcinoma was diagnosed preoperatively in two (33%) and postoperatively in four patients (67%). We operated five patients (one case was not treated because of end-stage pancreatic cancer). Two patients underwent endoscopic sinus surgery (ESS) alone, two ESS plus Denker's method, and one ESS plus anterior craniotomy. Three patients underwent surgery only, and two patients

received postoperative radiotherapy. The median follow-up period was 69.3 months. One patient died of the disease and the remaining patients are alive without recurrence.

CONCLUSION:

For IP patients exhibiting these clinical findings preoperatively, we should suspect complication with malignancy and plan a treatment. Even if postoperative histology does not confirm malignancy, we should ensure careful observation because of metachronous malignant transformation or the possibility to overlook small malignant lesions. Our result suggests that our strategy for malignant IP could be a reasonable option

Auris Nasus Larynx. 2018 Mar 13. pii: S0385-8146(17)30809-X.

9. Magnetic Resonance Imaging in Evaluation of Sinonasal Masses with Histopathological Correlation.

Begum MS1, Sarker UK, Islam MA, Sangma MA, Paul P, Rahman MA.

Abstract

Sinonasal mass is the abnormal growth of tissue from nasal cavity and mucosa of the paranasal sinuses. The growth may be benign or malignant. The benign lesion grows slowly and does not metastasize. The malignant lesion grows rapidly and metastasizes early. The aim of this study is to evaluate and diagnose the various types of sinonasal masses with MRI and its correlation with histopathological findings. This cross sectional descriptive study was carried out for a period of 02 years, from July 2015 to June 2017. The patients were selected from the ENT outpatient department and from the department Radiology & Imaging of Mymensingh Medical College Hospital, Mymensingh, Bangladesh who were reported as case of sinonasal masses. Thirty three (33) patients (17 males and 16 females) with sinonasal masses were included after fulfilling exclusion & inclusion criteria which was confirmed by proper clinical examination & were subjected to MRI and histopathological examination. The age range was 11 to 85 years. The nasal cavity was the most commonly involved site with sinonasal malignancies (were 4 cases, 12.12%) followed by the maxillary sinuses (were 2 cases, 6.06%). The least commonly affected site was the frontal sinuses (was 1 case, 3.03%). Histopathological findings shows benign sinonasal tumors were present in 25 cases. The most common benign lesion was sinonasal polyposis 10 cases (30.30%), followed by inverted papilloma 6 cases (18.18%) & juvenile nasopharyngeal angiofibroma 6 cases (18.18%), adenoma 02 cases (6.06%), and one case was rhinosporidiosis (3.03%). Malignant sinonasal tumors were present in 8 cases. Most common malignant tumors were nasopharyngeal carcinoma in 4 cases (12.12%), adenoid cystic carcinoma in 3 cases (9.09%) and non-Hodgkin lymphoma was present in 01 case (3.03%). MRI report shows benign masses in 23 cases of which nasopharyngeal polyposis was 10(30.30%), inverted

papilloma 6(18.18%), juvenile angiofibroma 4(12.12%), adenoma 02(6.06%) & rhinosporidiosis 1(3.03%). Among 10 malignant tumors nasopharyngeal carcinoma were 6(18.18%), adenoid cystic carcinoma 3(9.09%) & non-Hodgkin lymphoma 1(3.03%). MRI findings of malignant sinonasal masses revealed that sensitivity 87.5%, specificity 40.0%, positive predictive value (PPV) 70% & negative predictive value 66%. Statistically significant association was observed between histopathology & MRI findings, p value was 0.305. Statistically significant association was found between histopathology & MRI findings.

Mymensingh Med J. 2018 Jan;27(1):26-33

10. Decision-making algorithm for minimally invasive approaches to anterior skull base meningiomas.

Ottenhausen M1, Rumalla K1, Alalade AF1, Nair P1, La Corte E1, Younus I1, Forbes JA1, Ben Nsir A1, Banu MA2, Tsiouris AJ3, Schwartz TH1,4,5.

Abstract

OBJECTIVE Anterior skull base meningiomas are benign lesions that cause neurological symptoms through mass effect on adjacent neurovascular structures. While traditional transcranial approaches have proven to be effective at removing these tumors, minimally invasive approaches that involve using an endoscope offer the possibility of reducing brain and nerve retraction, minimizing incision size, and speeding patient recovery; however, appropriate case selection and results in large series are lacking. METHODS The authors developed an algorithm for selecting a supraorbital keyhole minicraniotomy (SKM) for olfactory groove meningiomas or an expanded endoscopic endonasal approach (EEA) for tuberculum sella (TS) or planum sphenoidale (PS) meningiomas based on the presence or absence of olfaction and the anatomical extent of the tumor. Where neither approach is appropriate, a standard transcranial approach is utilized. The authors describe rates of gross-total resection (GTR), olfactory outcomes, and visual outcomes, as well as complications, for 7 subgroups of patients. Exceptions to the algorithm are also discussed. RESULTS The series of 57 patients harbored 57 anterior skull base meningiomas; the mean tumor volume was 14.7 ± 15.4 cm3 (range 2.2-66.1 cm3), and the mean follow-up duration was 42.2 ± 37.1 months (range 2-144 months). Of 19 patients with olfactory groove meningiomas, 10 had preserved olfaction and underwent SKM, and preservation of olfaction in was seen in 60%. Of 9 patients who presented without olfaction, 8 had cribriform plate invasion and underwent combined SKM and EEA (n = 3), bifrontal craniotomy (n = 3), or EEA (n = 2), and one patient without both olfaction and cribriform plate invasion underwent SKM. GTR was achieved in 94.7%. Of 38 TS/PS meningiomas, 36 of the lesions were treated according to the algorithm. Of these 36 meningiomas, 30 were treated by EEA and 6 by craniotomy. GTR was achieved in 97.2%, with no visual deterioration and one

CSF leak that resolved by placement of a lumbar drain. Two patients with tumors that, based on the algorithm, were not amenable to an EEA underwent EEA nonetheless: one had GTR and the other had a residual tumor that was followed and removed via craniotomy 9 years later. CONCLUSIONS Utilizing a simple algorithm aimed at preserving olfaction and vision and based on maximizing use of minimally invasive approaches and selective use of transcranial approaches, the authors found that excellent outcomes can be achieved for anterior skull base meningiomas.

Neurosurg Focus. 2018 Apr;44(4):E7