



Reader Digest
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1. Choanal Atresia and Craniosynostosis: Development and Disease.

[Lesciotto KM1, Heuzé Y, Wang Jabs E, Bernstein JM, Richtsmeier JT.](#)

Abstract

A number of textbooks, review articles, and case reports highlight the potential comorbidity of choanal atresia in craniosynostosis patients. However, the lack of a precise definition of choanal atresia within the current craniosynostosis literature and widely varying methods of detection and diagnosis have produced uncertainty regarding the true coincidence of these conditions. The authors review the anatomy and embryologic basis of the human choanae, provide an overview of choanal atresia, and analyze the available literature that links choanal atresia and craniosynostosis. Review of over 50 case reports that describe patients diagnosed with both conditions reveals inconsistent descriptions of choanal atresia and limited use of definitive diagnostic methodologies. The authors further present preliminary analysis of three-dimensional medical head computed tomographic scans of children diagnosed with craniosynostosis syndromes (e.g., Apert, Pfeiffer, Muenke, and Crouzon) and typically developing children and, although finding no evidence of choanal atresia, report the potentially reduced nasal airway volumes in children diagnosed with Apert and Pfeiffer syndromes. A recent study of the *Fgfr2c* Crouzon/Pfeiffer syndrome mouse model similarly found a significant reduction in nasal airway volumes in littermates carrying this *FGFR2* mutation relative to unaffected littermates, without detection of choanal atresia. The significant correlation between specific craniosynostosis syndromes and reduced nasal airway volume in mouse models for craniosynostosis and human pediatric patients indicates comorbidity of choanal and nasopharyngeal dysmorphologies and craniosynostosis conditions. Genetic, developmental, and epidemiologic sources of these interactions are areas particularly worthy of further research.

Plast Reconstr Surg. 2018 Jan;141(1):156-168.



2. The sphenopalatine foramen in man: anatomical, radiological and endoscopic study.

[El-Shaarawy EAA, Hassan SS¹.](#)

Abstract

BACKGROUND:

Epistaxis is a frequent problem otorhinolaryngologists faces of in their practice. The variations of the sphenopalatine foramen and consequently the artery may be one of the major sources of such bleeding.

AIM OF THE WORK:

The present work aimed at to localize the site of sphenopalatine foramen and also to illustrate its different shapes, number and any other variation.

MATERIALS AND METHODS:

In the current study, twenty adult skulls of both sexes with total 40 half skulls were used in addition to 20 heads of adult living subjects of both sexes aged between 30-60 years examined with multislice helical CT with 3-D reconstruction of SPF. Then, examination of another ten dried skulls with endoscope.

RESULTS:

The number of the sphenopalatine foramina (SPF) is varied being single in nearly 80 % and multiple in 20 % of examined cases. The shape of the foramen also is varied; regular in 67.5 % and irregular in 32.5 % of all cases. The site of the foramen on the lateral nasal wall is placed in the superior meatus in most of examined skulls (62.5 %) while in the rest (37.5 %) they are found in the superior meatus and extending to the middle one.

CONCLUSIONS:

There are variation of the number, shape and site of the SPF, and consequently of the branches of the sphenopalatine artery, and this may explain the surgical failure in management of severe epistaxis. The data obtained from the current work support the predication of more than one sphenopalatine arteries and gives ample knowledge on the endoscopic study of the lateral nasal wall and consequently the surgical treatment of severe epistaxis.

Folia Morphol (Warsz). 2017 Nov 13.



3. Convex bone deformity after closed reduction of nasal bone fracture.

[Nishioka H1, Kondoh S2, Yuzuriha S3.](#)

Abstract

BACKGROUND:

Nasal fracture is the most common type of facial fracture treated by plastic surgeons. Here, we clarify the postoperative deformities that frequently remain after closed reduction of fresh nasal bone fracture by three-dimensional computed tomography (3D-CT).

METHODS:

Hundred consecutive cases of fresh nasal bone fracture in patients treated between May 2010 and January 2016 were examined. After closed reduction, the overall appearance of the arch formed by the nasal bone and maxillary process was evaluated as 'Excellent', 'Good' or 'Fair'. Patients were also asked about their overall satisfaction with the operation, and the responses were classified as 'Satisfied', 'Neutral' or 'Dissatisfied'.

RESULTS:

Eighty-six patients underwent 3D-CT examination both at the time of the initial consultation and 3 months after the operation. The results were 'Excellent' in 69 patients and 'Good' in 17 patients, with none of the patients having only 'Fair' results. Convex bone deformities on one side were seen in all six bilateral type fractures evaluated as 'Good'. All patients classified as 'Excellent' reported being 'Satisfied' with the results, but some patients classified as 'Good' gave a 'Neutral' evaluation regarding their satisfaction.

CONCLUSIONS:

The residual deformities seen in bilateral type fractures were most notable, and they were all convex bone deformities on one side. Plastic surgeons should use ultrasonography or other reliable new methods in addition to visual inspection during the operation to successfully treat the region of the convex fracture.

J Plast Reconstr Aesthet Surg. 2018 Jan;71(1):85-89.



4. Use of Hemostatic Nasal Plugs in Emergency Medical Services in the Netherlands: A Prospective Study of 33 Cases.

[Te Grotenhuis R, van Grunsven PM, Heutz WMJM, Tan ECTH.](#)

Abstract

BACKGROUND:

Epistaxis is a common medical emergency with possible life-threatening complications. In the prehospital setting, epistaxis can be treated with nasal tampons. HemCon® Nasal Plug is a nasal tampon impregnated with oxidized cellulose, which has hemostatic properties.

OBJECTIVE:

The objective of this study was to determine the effectiveness and usability of HemCon Nasal Plugs in the treatment of severe epistaxis in the prehospital setting.

METHODS:

From June 2012 to December 2014, all ambulances of two emergency medical services in the Netherlands were equipped with HemCon Nasal Plugs. The plug was used according to protocol; if conventional treatment failed to control severe epistaxis or if conventional treatment was unlikely to achieve hemostasis. The ambulance personnel filled in an evaluation form after each use.

RESULTS:

A total of 33 patients were treated with HemCon Nasal Plugs. Twenty-four patients were taking anticoagulants or suffered from a clotting disorder. The cause of epistaxis was idiopathic in the majority of the patients. Inserting HemCon Nasal Plugs resulted in cessation of epistaxis in 25/33 patients and resulted in reduction of epistaxis in 4/33 patients. HemCon Nasal Plugs failed to control epistaxis in 4/33 patients, possible due to an unreachable site of bleeding.

CONCLUSION:

This study demonstrated that HemCon Nasal Plug is an effective adjunct in the prehospital treatment of severe and uncontrolled epistaxis.

Prehosp Emerg Care. 2018 Jan-Feb;22(1):91-98.



5. Masses of the Nose, Nasal Cavity, and Nasopharynx in Children.

[Rodriguez DP1, Orscheln ES1, Koch BL1.](#)

Abstract

A wide range of masses develop in the nose, nasal cavity, and nasopharynx in children. These lesions may arise from the nasal ala or other structures of the nose, including the mucosa covering any surface of the nasal cavity, the cartilaginous or osseous portion of the nasal septum, the nasal turbinates, and the nasal bones. Lesions may also arise from the nasopharynx or adjacent structures and involve the nose by way of direct extension. The causes of nasal masses in children include congenital and developmental disorders such as congenital nasolacrimal duct mucocele, dermoid cyst, cephalocele, and nasal neuroglial heterotopia; inflammatory and infectious processes such as mucocele, polyp, and pyogenic granuloma; benign neoplasms such as infantile hemangioma and juvenile nasopharyngeal angiofibroma; malignant lesions such as rhabdomyosarcoma and nasopharyngeal carcinoma; and masses related to prior trauma such as septal hematoma. Although direct visualization, without imaging, is frequently sufficient to diagnose pediatric nasal conditions, in many cases imaging has a key role in the treatment of the affected child. Some of these lesions have characteristic computed tomography and/or magnetic resonance imaging findings, some of them are diagnosed on the basis of the location and imaging findings combined, and others demonstrate nonspecific imaging findings. However, imaging is important for better defining the total extent of the lesion and guiding the clinician in determining whether medical and/or surgical intervention is required. In this article, the authors review the imaging findings of the most common causes-and many of the not-so-common causes-of nasal masses encountered in the pediatric population.

Radiographics. 2017 Oct;37(6):1704-1730.

6. The linkage of allergic rhinitis and obstructive sleep apnea.

[Chirakalwasan N1, Ruxrungtham K.](#)

Abstract

Rhinitis can be divided into allergic and non-allergic rhinitis. Rhinitis, particularly allergic rhinitis, has been shown to be associated with obstructive sleep apnea; a condition characterized by repetitive upper airway obstruction during sleep. Allergic rhinitis increases the risk of developing obstructive sleep apnea by two major mechanisms: 1) increase in airway resistance due to higher nasal resistance and 2) reduction in pharyngeal diameter from mouth breathing that moves the mandible inferiorly. Other inflammatory mediators including histamine, CysLTs, IL 1 β and IL-4 found in high levels in allergic rhinitis, have also been shown to worsen sleep quality in obstructive sleep apnea. Prior studies have shown that treatment of allergic rhinitis,



particularly when intranasal steroid are used, improved obstructive sleep apnea. Leukotriene receptor antagonists were also associated with positive results on obstructive sleep apnea in adult patients with concomitant allergic rhinitis but current data are limited in the case of children.

Asian Pac J Allergy Immunol. 2014 Dec;32(4):276-86

7. Endoscopic endonasal management of recurrent maxillary mucocoeles using biliary T-tube stenting.

[Ono N1, Ito S, Homma H, Okada H, Murata J, Ikeda K.](#)

Abstract

Mucocoeles of the paranasal sinus can be managed endoscopically with an extremely low recurrence rate. Frontal sinus mucocoeles can sometimes be prevented from closing and reforming by stenting, which to the best of our knowledge has not yet been reported in the maxillary sinus. We describe the cases of 5 patients-3 men and 2 women, aged 47 to 75 years (mean: 59.6)-with a recurrent and intractable maxillary sinus mucocoele that was managed with biliary T-tube stenting. The indications for stenting included recurrent episodes of mucocoele with or without a lateral location with a relatively thick bony wall. A latex rubber pediatric biliary T-tube was endoscopically inserted through a window opening into the marsupialized mucocoele. The stent was removed 6 to 14 months postoperatively in 4 cases; in the other case, the stent remained adequately positioned for 35 months. None of the patients experienced signs or symptoms of recurrence. We conclude that a T-tube stent can be used successfully to maintain long-term patency in patients with a recurrent and intractable maxillary mucocoele, with patency being maintained even after removal of the stent.

Ear Nose Throat J. 2017 Dec;96(12):469-476

8. The Management of the Paranasal Sinus Osteomas.

[Arslan HH1, Tasli H, Cebeci S, Gerek M.](#)

Abstract

OBJECTIVE:

Osteoma is the most common benign tumor of the paranasal sinuses. The clinical characteristics and treatment of this disease remain controversial. The aim of this study is to determine the appropriate method of treatment approach according to the features of osteomas.

METHODS:

Forty-one patients with paranasal sinus osteomas were included in the study. According to the location and the size of tumors, patients were followed up or operated. Surgical treatment was



performed via external, endoscopic, or combined approaches for symptomatic patients. Routine physical and radiological evaluations were performed for follow-up in asymptomatic patients.

RESULTS:

Paranasal sinus osteomas were found most common in frontal sinus (n=26, 63.4%) followed by ethmoid sinus (n=10, 24.3%), maxillary sinus (n=4, 9.7%), and sphenoid sinus (n=1, 2.4%). Of the patients with frontal sinus osteomas, the endoscopic approach was performed in 11 patients, external approach (osteoplastic flap) in 9, and combined (external + endoscopic) approach in 5 patients. Endoscopic approach was preferred in all patients with ethmoid osteoma. The combination of Caldwell-Luc procedure and endoscopic approach was performed in 1 patient with maxillary sinus osteoma. In 3 patients, who underwent osteoplastic flap technique, mucocele developed in the postoperative period. Partial loss of vision developed postoperatively in 1 patient with a giant ethmoid osteoma. There were no other complications and recurrence in an average of 29 months follow-up.

CONCLUSION:

Paranasal sinus osteomas are rare, slow-growing benign lesions, with potentially serious complications. Main treatment option for sphenoid and ethmoid sinus and other symptomatic osteomas are surgical resection. Radiographic follow-up is necessary for asymptomatic lesions. Selection of surgical resection method depends on tumor location and size. Patients should be observed for recurrence with periodic examination and imaging techniques. Follow-up should be performed at least in 1-year intervals after the surgery.

J Craniofac Surg. 2017 May;28(3):741-745.

9. Does human papilloma virus play a role in sinonasal inverted papilloma?

[Govindaraj S1, Wang H.](#)

Abstract

PURPOSE OF REVIEW:

Inverted papillomas are a benign sinonasal tumor with a propensity for recurrence and malignant transformation. Although many investigations have been made into the nature of this disease, its etiology and causes for malignant transformation have yet to be fully elucidated. It is the authors' objective to present a review on management of the disease and evaluate the present relationship between human papilloma virus (HPV) and inverted papilloma.

RECENT FINDINGS:

A causal relationship between HPV and the pathogenesis and progression of inverted papilloma has been posited since the 1980s. Although widely varied HPV detection rates have been



reported, recent studies have noted a substantial increase in both recurrence and malignant transformation in HPV-infected inverted papillomas. However, exact cellular mechanisms by which infection leads to subsequent recurrence and development of carcinoma have yet to be elucidated.

SUMMARY:

Evidence exists suggesting that HPV infection plays a role in the progression of inverted papilloma and confers an increased risk for recurrence and malignant transformation. PCR is the preferred detection method, and fresh or frozen specimens are the ideal source of tissue for evaluation. Although multiple studies have detected an association between HPV and inverted papilloma (both recurrent and malignant transformation), further studies are necessary to elucidate the underlying molecular pathways before an association can be changed to causation.

Curr Opin Otolaryngol Head Neck Surg. 2014 Feb;22(1):47-51

10. Superior turbinate eosinophilia correlates with olfactory deficit in chronic rhinosinusitis patients.

[Lavin J1, Min JY1, Lidder AK2, Huang JH1, Kato A3, Lam K4, Meen E5, Chmiel JS6, Norton J3, Suh L3, Mahdavinia M7, Hulse KE3, Conley DB1, Chandra RK8, Shintani-Smith S1, Kern RC1, Schleimer RP1,2, Tan BK1.](#)

Abstract

OBJECTIVE:

To evaluate if molecular markers of eosinophilia in olfactory-enriched mucosa are associated with olfactory dysfunction.

STUDY DESIGN:

Cross-sectional study of tissue biopsies from 99 patients, and an additional 30 patients who underwent prospective olfactory testing prior to sinonasal procedures.

METHODS:

Tissue biopsies were processed for analysis of inflammatory markers using quantitative real time polymerase chain reaction (qRT-PCR). Ipsilateral olfactory performance was assessed using the Sniffin' Sticks (Burghart, Wedel, Germany) threshold component and the University of Pennsylvania Smell Identification Test (Sensonics, Haddon Heights, NJ). Age-adjusted data was correlated with inflammatory marker expression and clinical measures of obstruction from computed tomography and endoscopy.

RESULTS:



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Gene expression of the eosinophil marker CLC (Charcot Leyden crystal protein) was elevated in superior turbinate (ST) tissue in chronic rhinosinusitis (CRS) with nasal polyps (CRSwNP) compared to ST and inferior turbinate tissue in CRS without nasal polyps (CRSsNP) and control patients (all $P < 0.001$, respectively). CLC in ST tissue was correlated with IL-5 and eotaxin-1 expression (all $P < 0.001$; $P = 0.65$, and 0.49 , respectively). CLC expression was strongly correlated with eosinophilic cationic protein levels ($P < 0.001$; $r = -0.76$), and ST CLC expression was inversely related to olfactory threshold ($P = 0.002$, $r = -0.57$) and discrimination scores ($P = 0.05$, $r = -0.42$). In multiple linear regression of CLC gene expression, polyp status, and radiographic and endoscopic findings with olfactory threshold, CLC was the only significantly correlated variable ($P < 0.05$).

CONCLUSION:

Markers of eosinophils are elevated in the ST of patients with CRSwNP and correlate with olfactory loss. These findings support the hypothesis that olfactory dysfunction in CRS correlates local eosinophil influx into the olfactory cleft.

Laryngoscope. 2017 Oct;127(10):2210-2218.