



ENT NEWSBUZZ

Vol 1 | Issue 4 | 2022

Dear Doctor,

Greetings from Micro Labs limited. We are happy to bring you “**ENT NEWSBUZZ**” which contains latest and interesting news.

Inside This Issue:

- Safety and Feasibility of the Endoscopic Endonasal trans-agger nasi Technique for the resection of patients with Ossifying Fibroma involving the anterior skull base
- Evaluation of the prevalence and the outcome of COVID-19-related Olfactory Dysfunction in multiracial Asian population
- Inner Ear MRI for the diagnosis of Meniere’s Disease
- Trauma–Related Nasal Obstruction: A Case Report

Should you require any specific article or medical information, please feel free to contact us at medicalservices@microlabs.in

Looking forward to your valuable feedback

Best Regards,

Medical Team, Micro Labs Ltd



Safety and Feasibility of the Endoscopic Endonasal trans-agger nasi Technique for the resection of patients with Ossifying Fibroma involving the anterior skull base

Ossifying fibromas are characterized as a rare fibro-osseous lesion that is mostly seen in the bones of the craniofacial skeleton like mandible and maxilla. According to the statement of World Health Organization, ossifying fibromas are described as the replacement of normal bone by fibrous tissues containing varying amounts of mineralized material and cementum. Though slow growing, ossifying fibromas are locally aggressive in nature and can also occur in the sinonasal cavities, skull base, and orbit. According to studies, ossifying fibromas is common in women compared to male. Surgery is considered as the major treatment option in ossifying fibromas with the aim of complete removal of the lesions with minimal morbidity. The aim of this study was to highlight a technique for resection of ossifying fibromas involving the anterior skull base through an endoscopic endonasal trans-agger nasi approach, based on anatomic studies and surgeries. To conduct this study, 2 human cadaveric heads were prepared and the anatomic relationship between agger nasi and anterior skull base were analysed. To illustrate the technique and feasibility of the approach, 2 clinical cases were taken.

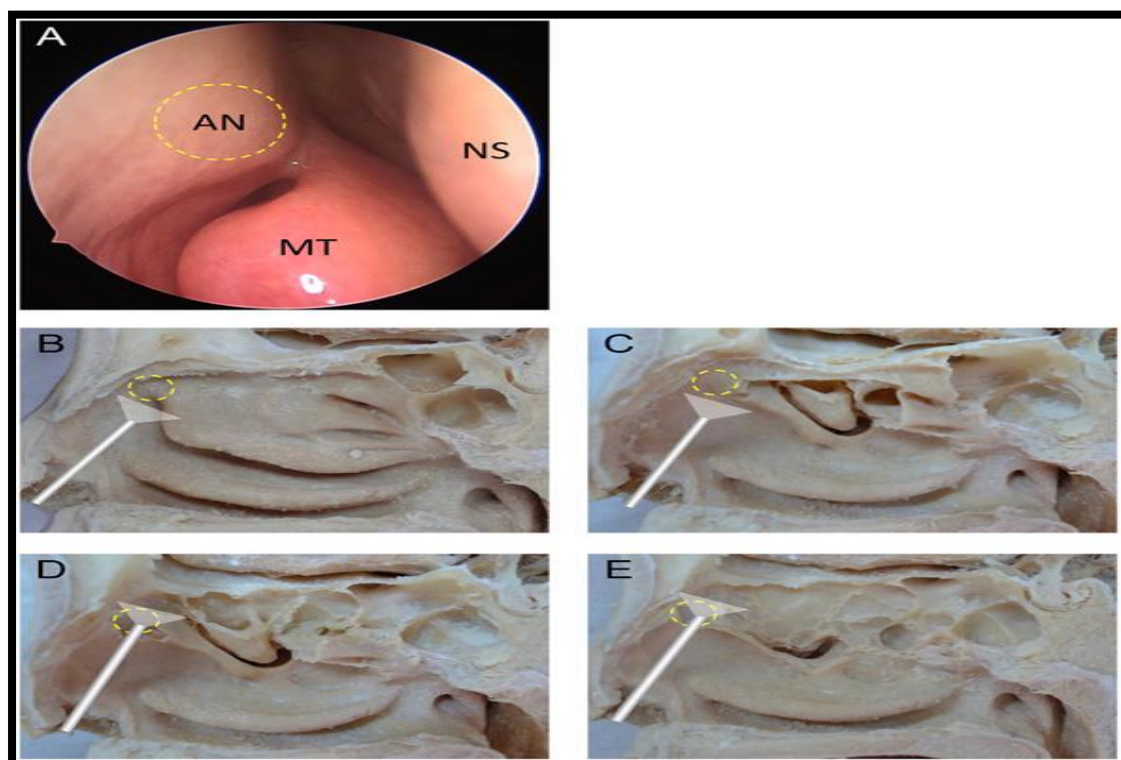
Endoscopic view showed, agger nasi at the anterior edge with anterior attachment of the middle turbinate with a mucosal membrane covering the ethmoidal crest of maxilla. (fig1). Sagittal dissection along the line of cribriform plate was made to study the anatomic relationship between agger nasi and anterior skull base. Sagittal view, showed the lateral wall of the nasal cavity with all the structures of the anatomic area, including middle turbinate and meatus, agger nasi cell, uncinate process, and ethmoidal bulla (Figure 1B and 1C). While Agger nasi was identified in the anterior and superior to the middle turbinate attachment. The vertical portion of the middle turbinate was removed and



the upper parts of the uncinate process and the ethmoidal bulla were observed posteriorly (Figure 1C and 1D). The upper parts of the uncinate process and the ethmoidal bulla were fully visible after the dissection of agger nasi and after the removal of the middle turbinate attachment (Figure 1D).

Removal of uncinate process and the ethmoidal bulla helped in the identification of the relationship between agger nasi and anterior skull base, lamina papyracea and frontal ostium. The agger nasi was found anterior and inferior to the frontal ostium and the anterior skull base (Figure 1E). As shown in Figure 1D and 1E, the structures of the frontal ostium and the anterior skull base were able to visualized by endonasal trans-agger nasi approach under the Zero-degree endoscope, after the removal of agger nasi.

Fig 1: Anatomic relationship between agger nasi and anterior skull base.





Conclusion: This study highlighted that endoscopic endonasal trans-agger nasi approach allows the direct access to the anterior skull base and is feasible, effective, and safe for the patients with ossifying fibroma involving anterior skull base

Reference : Xiong Q, Feng X, Fan Y, Sun Y. Endoscopic Endonasal Trans-Agger Nasi Approach for Resection of Ossifying Fibroma Involving the Anterior Skull Base: Surgical Anatomy and Technical Note. Ear Nose Thr J. 2022 Jul 21:1455613221116986.



Evaluation of the prevalence and the outcome of COVID-19-related Olfactory Dysfunction in multiracial Asian population

The world is still fighting with COVID 19 and trying to avoid the fourth wave of infection. The rapidly mutating nature of SARS-CoV-2 creates pressure to the medical science as the nature of this virus is quite uncertain. However, Olfactory dysfunction (OD) was considered as an important symptoms of COVID-19, since then different studies have burgeoned across the globe. The long-term outcome and prognosis of Olfactory dysfunction among COVID-19 patients is still not clear. A recent meta-analyses revealed that the prevalence of Olfactory dysfunction in COVID-19 is 47.85%, but there is a lack of data on Olfactory dysfunction characteristics involving Asian patients. Various studies have highlighted that Asian ethnicity has the highest risk factor of COVID-19-related mortality and morbidity. This study aimed to evaluate the prevalence and the outcome of COVID-19-related Olfactory dysfunction in Asian population

This study enrolled 356 adult's patients with olfactory dysfunction, tested positive for COVID 19 via reverse transcription-polymerase chain reaction and admitted to a tertiary centre. Enrolled patients were assessed through a telephone-based interview. After the telephonic initial interview, patients were then followed up for 2, 4, 8, and 12 weeks.

Of the total enrolled patients, 83% were Malay followed by Indians (8.5%), Chinese (6.38%), and other races (2%). Almost 94 patients had new-onset olfactory dysfunction while 26.4% was the prevalence of olfactory dysfunction. Around 63 % patients had no prior medical illness. On the other hand, Malay patients were more affected by COVID-19- related olfactory dysfunction. Common comorbidity was hypertension (14.9%). Among 94 patients with olfactory dysfunction, 61.7% showed taste dysfunction. Most of the patients enrolled were non-



smokers

comprised of 90.4% while Olfactory dysfunction was the common symptoms observed in 36.2% patients.

After 2 weeks, Improvement of olfactory dysfunction was significantly observed as it improved to 84%. Three months of follow-up showed 6.4% persistent symptoms, of which 33.33% with parosmia and 66.67% with anosmia (table 1). No patients with olfactory dysfunction prior to COVID 19 were observed. Neither the patients had a history of recurrent nasal symptoms. It was also noted that no patients received the COVID 19 vaccination.

TABLE 1: Comparison of 2-week vs 2 month

		Group				95% CI for Odds Ratio		
		After 2 Months		After 2 Weeks		Odds Ratio	Lower Limit	Upper Limit
		Count	%	Count	%			
Age (mean/SD)		38.3 (12.3)		36.7 (11.1)				0.816
Gender	Female	1	33.30	53	67.10	0.245	0.021	2.831
	Male	2	66.70	26	32.90			
Ethnicity	Chinese	0	0.00	6	7.70	1.000		
	Indian	0	0.00	7	9.00			
	Others	0	0.00	2	2.60			
	Melayu	4	100.00	63	80.80			
Smoking	No	3	75.00	70	90.90	0.3	0.027	3.283
	Yes	1	25.00	7	9.10			

Conclusion: This study highlighted that the prevalence of olfactory dysfunction among patients with COVID 19 was 26.4%. After 2 weeks, complete recovery was observed in 84% of patients and 6.4% of patients were observed with persistent olfactory dysfunction after 3 months

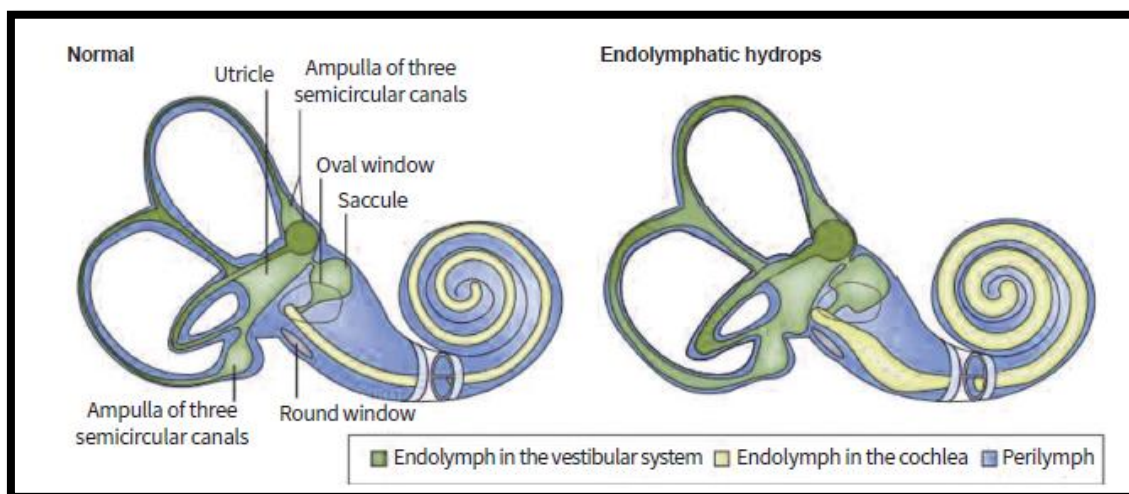
Reference: Saniasiaya J, Ab Rahim NA, Teh CS, Prepageran N. Prevalence and Outcome of Olfactory Dysfunction in COVID-19 Patients in a Multiracial Asian Sett. B-ENT. 2022;18(2):103-9.



Inner Ear MRI for the diagnosis of Meniere's Disease

Meniere's disease is a multifactorial disorder named after the French Physician "Prosper Meniere" at the end of the 19th century. The characteristic feature of Meniere's disease includes sudden vertigo attack, fluctuating sensorineural hearing loss, tinnitus, and aural pressure or fullness. The name "Meniere's disease" is believed to be taken from Adam Politzer's use of the name 'Symptom der Meniereschen Krankheitform' in 1867. Meniere's disease has a great impact on the quality of life of the patients. Meniere's disease is not only a multifactorial disorder, but also a disorder that is difficult to diagnose and predict the prognosis using only audiometry. After which, efforts have been made to identify endolymphatic hydrops through magnetic resonance imaging (MRI) of the inner ear (fig 2). According to studies, there is an association among degree of endolymphatic hydrops on inner ear MRI, patient symptoms, and test results.

Fig 2: Endolymphatic hydrops (EH), a histologic marker of Meniere's disease.





Highlighting about current diagnosis and dilemma of Meniere's disease: Since 2015, the diagnostic criteria for Meniere's disease proposed by AAO-HNS have been widely used and were revised. (Table 2) However, the revised diagnostic criteria completely depend on the subjective symptoms, except for PTA

Table 2: The AAO-HNS 1995 criteria and 2015 proposed new criteria for Meniere's disease

	AAO-HNS 1995 criteria	2015 new criteria by Barany Society
Certain Meniere's disease	Definite Meniere's disease, plus histopathological confirmation	Deleted
Definite Meniere's disease	At least two definite spontaneous episodes of vertigo lasting at least 20 minutes Audiometrically documented hearing loss on at least one occasion Tinnitus or aural fullness in the treated ear Other causes excluded	At least two spontaneous episodes of vertigo, each lasting from 20 minutes to 12 hours Audiometrically documented low- to medium-frequency sensorineural hearing loss in one ear, defining the affected ear on at least one occasion before, during, or after one of the episodes of vertigo Fluctuating aural symptoms (hearing, tinnitus, or fullness) in the affected ear Not better accounted for by another vestibular diagnosis
Probable Meniere's disease	One definitive episode of vertigo Audiometrically documented hearing loss on at least one occasion Tinnitus or aural fullness in the treated ear Other causes excluded	At least two episodes of vertigo or dizziness, each lasting from 20 minutes to 24 hours Fluctuating aural symptoms (hearing, tinnitus, or fullness) in the affected ear Not better accounted for by another vestibular diagnosis
Possible Meniere's disease	Episodic vertigo of the Meniere type without documented hearing loss Sensorineural hearing loss, fluctuating or fixed Other causes excluded disequilibrium, but without definitive episode Other causes excluded	Deleted



Usefulness and future of MRI in diagnosis of Meniere's disease:

Though there are some cons with the use of MRI in Meniere's disease, but it is widely used for the diagnosis of Meniere's disease, recurrent low-frequency hearing loss, non-specific vertigo, and vestibular migraine. With the development of an automated analysis system of endolymphatic hydrops using the convolutional neural network algorithm, the usefulness of inner ear MRI is rapidly increasing. This algorithm works quickly and helps in the generation of the results that are highly consistent with those generated by manual calculation.

Conclusion: Meniere's disease is not only a difficult disease to diagnose, but also difficult to predict the prognosis. After the efforts of various researchers, an inner ear MRI technique has been developed to directly analyse the endolymphatic hydrops and to reduce the burden of Meniere's disease. Although there is an additional need of researches using deep learning, the advantage of inner ear MRI in treating Meniere's disease cannot be ignored and is expected to increase in upcoming years.

Reference: Cho YS, Song B, Cho BH, Chung WH. The usefulness of inner ear magnetic resonance imaging in patient with Meniere's disease: A narrative review. Precision and Fut Med. 2022 Jun 30;6(2):138-45.



Trauma–Related Nasal Obstruction: A Case Report

The midline of the nasal cavity comprises of the nasal septum cartilage, vomer, vertical plate of the ethmoid bone, and nasal ridge of the maxillary bone. When a person starts growing, elongation of the nasal septum cartilage and vomer can be seen leading to the deviation of nasal septal deviation due to stress on the junction. External nasal deformity can occur depending on the direction of cartilage growth. Sometimes, external nasal deformity and nasal septal deviation are associated with facial trauma. Treatment based on a 3D view of the nasal cavity morphology is required to lower the functional nasal obstruction.

Akama T et al have reported a rare case of a female patients with trauma–related nasal obstruction requiring facial plastic surgery. A female patient was presented to the emergency department after falling and hitting the face. Patients had an open wound in the nasal area, which was sutured. Patient complaint of having symptoms of nasal obstruction. Nasal endoscopy revealed no significant findings (e.g., nasal discharge or nasal tumour). No deviation of the nasal dorsum or depression of the nasal apex, was seen and the sutured wound was clear without any signs of infection. But the left nasal wing was found to be deformed, and the external nostrils were collapsed (Figure 2). Paranasal computed tomography was done which showed no evidence of rhino sinusitis or nasal septal deviation. However, the patient was diagnosed as trauma-related anterior nasal valve dysfunction and open rhinoplasty and scar contra cure repair suing Z-plasty were decided to expand the nasal valve. incision in the lateral nasal edge through the entrance of the right lateral nasal cavity was made, followed by reverse V-shaped incision at the front of the nasal pillar. Patient’s anterior edge of the nasal septal cartilage was identified, and the separation of the bilateral nasal septal mucosa was done under the cartilage membrane, and the posterior vertical version of the ethmoid bone was resected endoscopically. The posterior part of the nasal septum cartilage was removed.



On the entrance of the left nasal cavity, Z-plasty was performed where scar contracture had occurred, and the bolster was fixed to the back of the nose. On the 2nd day of the surgery, the bolster and packing were removed and was discharged from the hospital on the 8th day. After 3 month follow, symptoms had completely subsided.

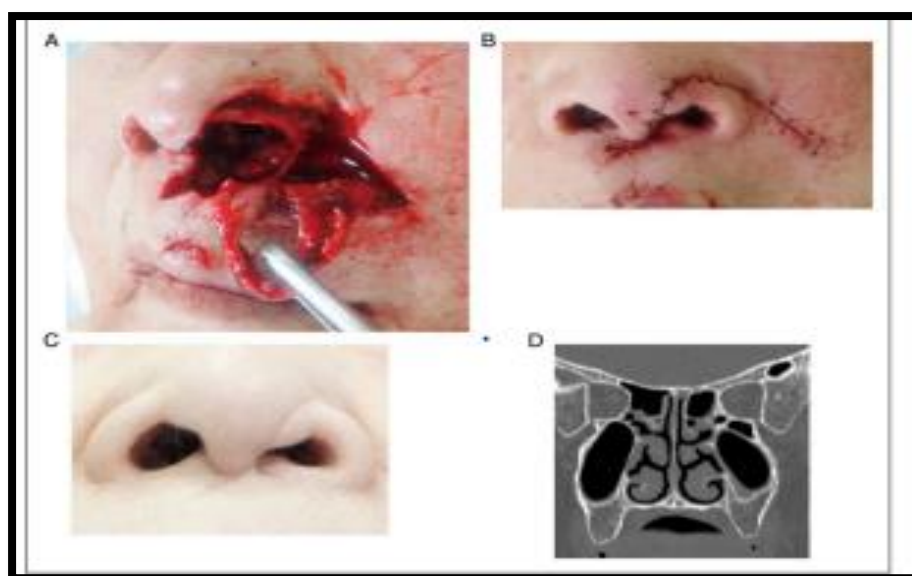


Fig 2: (A) Trauma to the nasal valve area at initial emergency department visit. A large laceration was observed in the nasal valve area and it was nearly detached. (B) Facial findings after suturing in the emergency department. (C) Facial findings at the first visit to the otolaryngology department. There is no sign of infection in the wound; however, there is a depression along the wound. (D) Paranasal sinus CT findings. No obvious sinusitis or nasal septal deviation was detected.

Conclusion: This case report highlighted about a patient with symptoms of nasal obstruction associated with traumatic external nasal deformity and also demonstrated how important it is to examine the cause of nasal obstruction symptoms from a 3D view of the nasal cavity before performing the surgical treatment



ENT NEWSBUZZ

Vol 1 | Issue 4 | 2022

Reference

Akama T,etal. A Case of Traumatic Nasal Valve Stenosis Successfully Treated with Open Rhinoplasty and Z-Plasty. Ear Nose Th J. 2022 Jul 12:1455613221115100.



This scientific input is prepared from the Department of Medical Services, an initiative of M/s Micro Labs Limited under the aegis of Micro Knowledge Academy. The information contained herein is for education purpose only. The content is developed by compiling information from various authentic and published literatures. Although great care has been taken to assure the accuracy of the publication, M/s Micro Labs Limited shall not be responsible or in any way liable for any inaccuracy, errors, or omissions resulting from negligence or otherwise howsoever or any consequences arising there from. In spite of best efforts, the information in this publication may become outdated over time. M/s Micro Labs Limited shall not be responsible in any manner whatsoever, for any action taken, opinions expressed, advice rendered or accepted, any direct, incidental, special or consequential loss and damage caused on the basis of any material or information presented in this publication / update