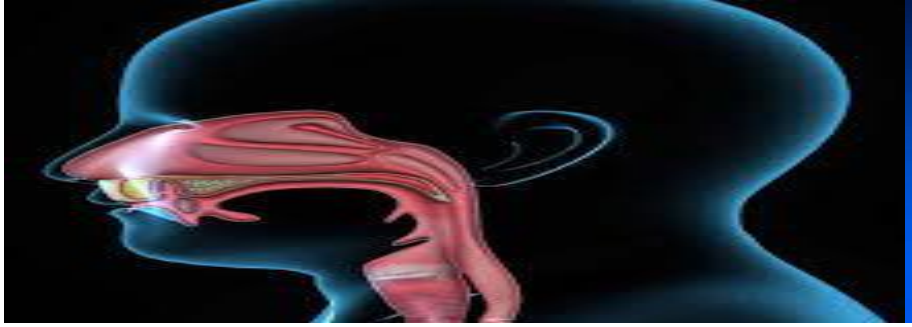
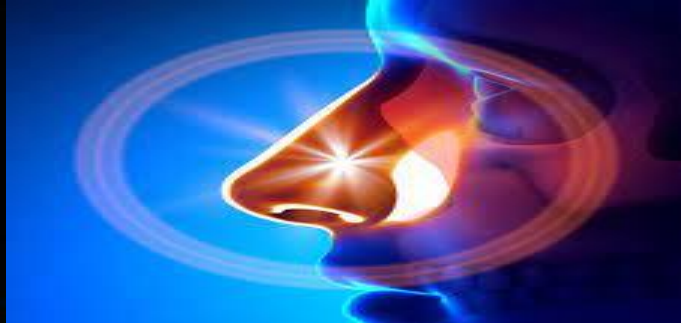

ENT NEWSBUZZ

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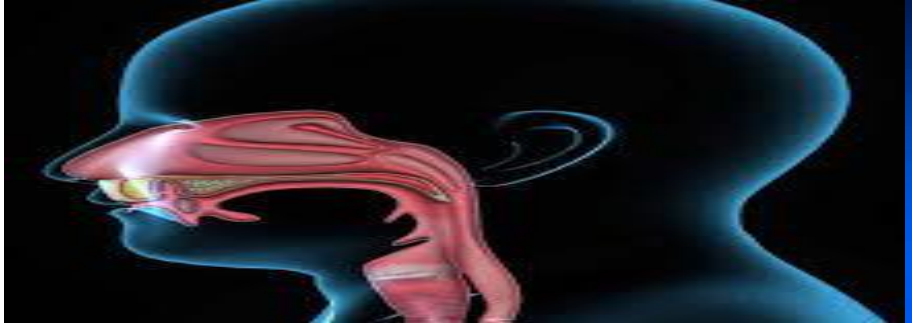
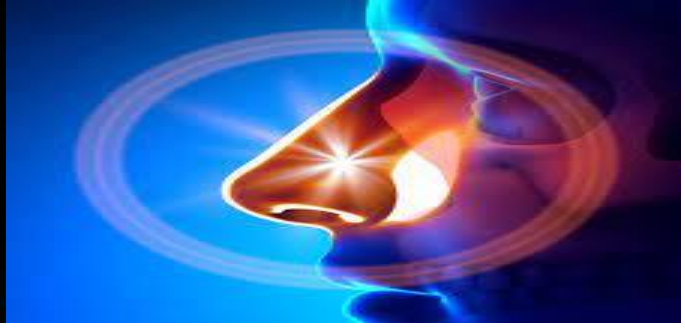

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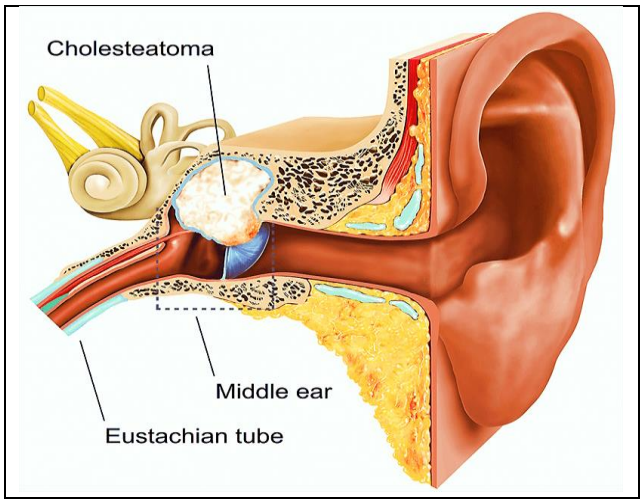
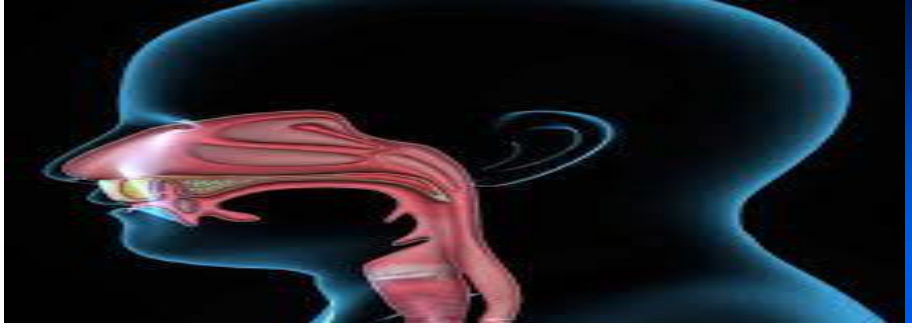
Identification and management of the risk of cholesteatoma development in patients with osteoma

Introduction: Osteomas typically damage the temporal bone, jaw, and paranasal sinuses in the craniofacial region. The external auditory canal (EAC) is the most frequently identified location, although they have also been found in other parts of the temporal bone, including the mastoid region and internal auditory canal.[1] EAC osteomas are uncommon, single, unilateral, benign tumors with a slow growth rate that are pedunculated. Usually, it start from the tympanosquamous or tympanomastoid suture lines that are next to the bony-cartilaginous junction. However, the cause of these conditions is uncertain. Osteomas in the EAC frequently grow slowly and show no symptoms for a long time. If the EAC gets infected, clogged, or constricted by concomitant lesions such as cholesteatomas, symptoms may appear.[2] EAC osteomas can cause stenosis and impair the capacity of the epithelium to migrate and clean itself, trapping keratinized epithelium and causing cholesteatoma to grow. Despite being an uncommon illness, EAC cholesteatoma (EACC) can cause anatomical disturbance and bone erosion, which can result in more difficulties.[1] So, this study was conducted to assess the risk of cholesteatoma development in osteoma patients and to provide a step-by-step approach to managing EAC osteoma patients.



Methods: In this retrospective study, 43 patients diagnosed with EAC osteoma were included. Using high-resolution computed tomography (HRCT) in both axial and coronal views, the osteoma's maximal diameter was determined. The osteoma's relative blockage ratio in the axial and coronal images was calculated. Otoscopy was used before surgery to detect pedicle development. Based on the existence of cholesteatoma, the patients were divided into two groups. Every patient underwent a pathologic examination to verify the existence or nonexistence of cholesteatoma development. Fischer's exact test was used to examine nonparametric variables such as sex, laterality, presenting symptoms, and EAC osteoma features.

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Results: Every osteoma was unilateral; 24 (55.8%) developed on the right side and 19 (44.2%) on the left. Fifty-eight (65.1%) of the EAC osteomas were found in the medial EAC and fifteen (34.9%) in the lateral EAC. Among the individuals with EAC osteomas, 9 (20.9%) experienced cholesteatoma development, while 34 (79.1%) did not. Osteomas with and without cholesteatoma had a maximum diameter of 12.67±4.09 and 7.67±3.27mm, respectively. There were 21 osteomas with pedicles and 13 without in the group without cholesteatoma. In the cholesteatoma group, two osteomas had pedicles, while seven did not. There was no difference in the relative blockage ratio between these two groups (Table 1). Canalplasty was performed simultaneously in 8 (88.9%) individuals with cholesteatoma and 10 (29.4%) patients without cholesteatoma. During the three-year follow-up period following surgery, no patient had a cholesteatoma or osteoma recurrence.

Table 1. Characteristics of patients with and without cholesterolomas concerning EAC osteomas.

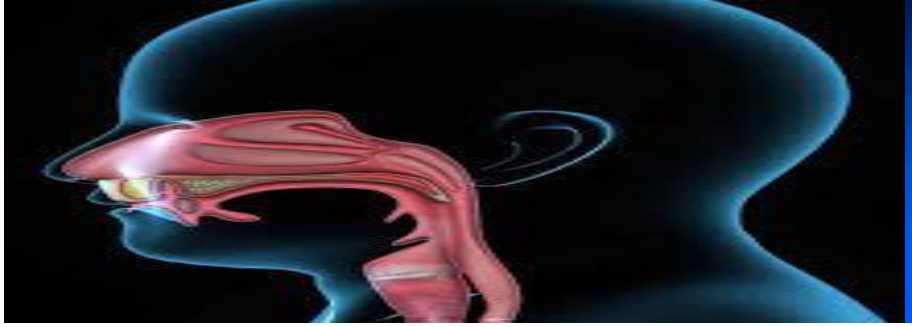
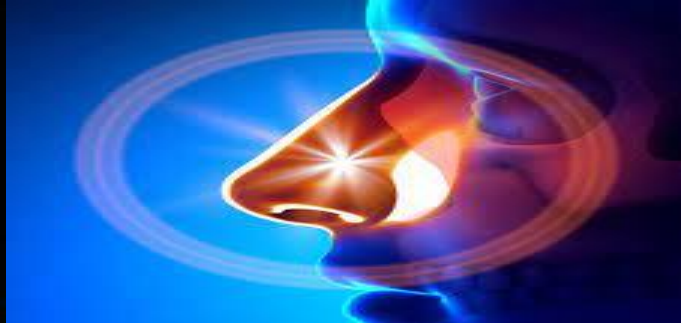
Characteristics of EAC osteomas	Total	With cholesteatoma	Without cholesteatoma	*P* value
Medial/lateral	28/15	7/2	21/13	.376
Pedicle (with/without)	23/20	2/7	21/13	.037*
Maximum diameter (mm)	8.74 ± 3.99	12.67 ± 4.09	7.67 ± 3.27	<.001*
Relative obstruction ratio (%)	70.19 ± 10.04	74.94 ± 7.37	68.52 ± 10.49	.184
Postauricular approach	8	5/9 (55.6%)	3/34 (8.8%)	<.001*
Canalplasty	18	8/9 (88.9%)	10/24 (29.4%)	.008*

Abbreviation: EAC, external auditory canal.
*With cholesteatoma versus Without cholesteatoma ($P < .05$).

Discussion: In this study, cholesteatoma cases had osteomas considerably bigger in diameter. This enlarged size can make preoperative eardrum inspection more difficult.[1] According to Chen CK et al., endoscopic transcanal treatment was used for patients with EAC osteomas. Large-scale osteomas without a visible stalk connected to the EAC were removed transcanally using a skin flap, whereas small, pedunculated osteomas were removed directly through the mouth.[2] Li et al. found that cholesteatoma was erosive, the stenotic EAC was greater in their cholesteatoma group than in the non-cholesteatoma group. Following the exclusion of individuals with both cholesteatoma and a faulty bony canal from the analysis, there was no discernible variation in the degree of EAC stenosis between the groups with and without cholesteatoma.[3]

Conclusion: The current study concluded that cholesteatoma was more likely to arise in larger osteomas, although it may also occur less frequently when a pedicle forms. Preoperative testing, such as HRCT and otoscopy, is essential for determining the size of the osteoma and whether cholesteatoma was likely to coexist in symptomatic patients.

Regular surveillance of external auditory canal (EAC) osteoma was recommended for people who do not exhibit any symptoms. Preoperative testing, such as otoscopy and high-resolution computed tomography (HRCT), was essential for determining the size of the osteoma and whether cholesteatoma was coexisting in symptomatic patients.

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Comparison of comorbid allergic manifestations and rhinitis, allergy testing and their associations with patient-related outcomes

Introduction: Asthma and COPD are widespread respiratory disorders that affect 8–10% of the world's population. Both disorders are distinguished by persistent inflammation of the airways and restriction of airflow, which may result in structural remodeling.[1] Allergic rhinitis (AR) is a chronic respiratory condition characterized by inflammation of the nasal mucosa brought on by exposure to allergens such as pollen, trees, weeds, and house dust mites. Interestingly, a connection between asthma and AR has been established. The immune system plays a major role in the pathophysiology of both diseases. An asthma severity has been shown in recent studies to raise the risk of AR by inducing an inflammatory response in the upper respiratory tract.[2] Rhinitis has been linked to an increased incidence of hospitalizations and emergency visits in asthma patients, as well as adverse effects on asthma control, health-related quality of life, and lung function. Although studies on COPD are more limited, allergic rhinitis has been linked to a higher incidence of COPD exacerbations. There was a dearth of studies examining the relationship between allergy manifestations and rhinitis, as well as other patient-related symptoms, in individuals with COPD. Comorbid allergy and rhinitis are widespread not just in asthma but also in COPD; allergy testing is underutilized, and both asthma and COPD are associated with poor patient-related outcomes.[1] So, this study aimed to assess the prevalence of comorbid allergic symptoms and rhinitis, as well as allergy testing and its relationships with patient-related outcomes in asthma and COPD patients.

Methods: A total of 1291 individuals with asthma and 1329 patients with COPD were included in this cross-sectional study. Self-completion questionnaires yielded information on demographics, rhinitis, allergic symptoms at pollen or furry pet exposure, exacerbations, self-assessed disease severity, and scores from the COPD Assessment Test (CAT) and Asthma Control Test (ACT). Additionally, allergy test records were reviewed. A total score of 1 to 5 was the primary result of the Asthma Symptom Control Test (ACT), which used five items to quantify asthma symptoms during the preceding four weeks. The CAT measures the health status of people with COPD. It consists of eight questions that are scored on a 6-point scale from 0 to 5, with the total score serving as the primary end measure.

Results: Asthma patients experienced allergic symptoms more frequently (75%) than COPD patients (38%). Seventy percent of asthma and fifty-eight percent of COPD patients reported having rhinitis (Figure 1). In the last 10 years, 28% of asthma patients and 8% of COPD patients have undergone allergy testing. Comorbid allergies and rhinitis were found to be independently linked to a higher chance of exacerbations (1.58 and 1.38), self-assessed moderate/severe disease (1.64 and 1.75), and poor asthma symptom control (ACT < 20) (OR [95% CI] 1.41 and 2.13). Combination allergies and rhinitis were found to be independently linked to a higher chance of low health status (CAT ≥ 10) in COPD patients (OR [95% CI] 1.46 and 2.59), exacerbations within the preceding six months (1.91 and 1.57), and self-assessed moderate/severe disease (1.70 and 2.13).

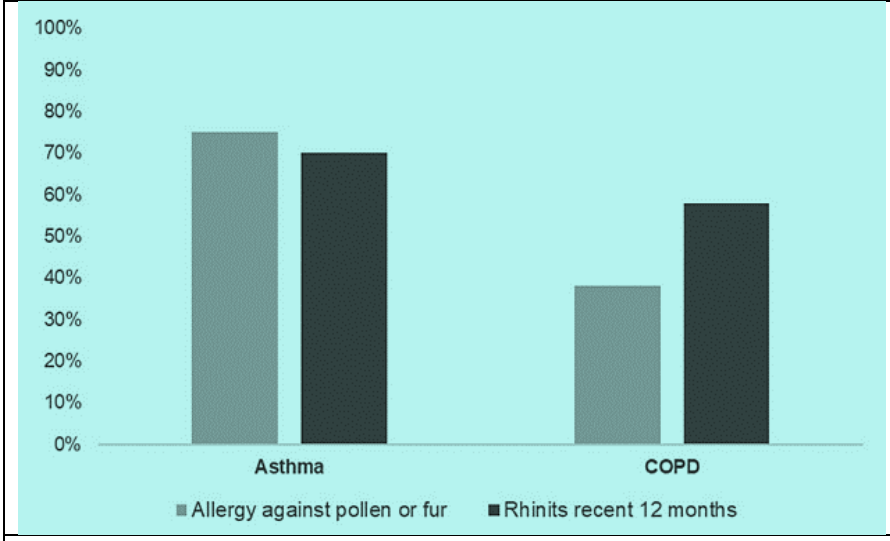
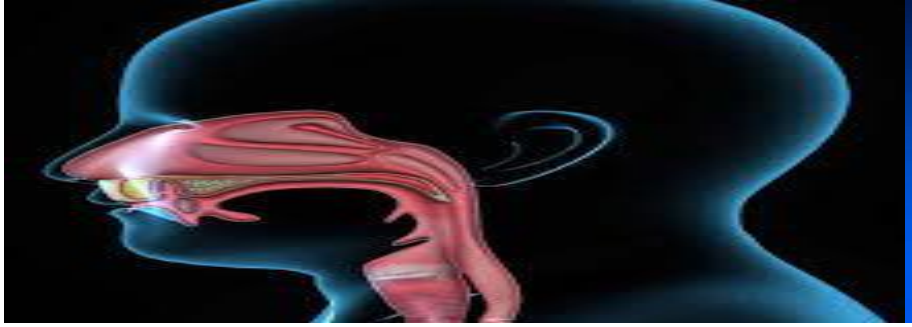
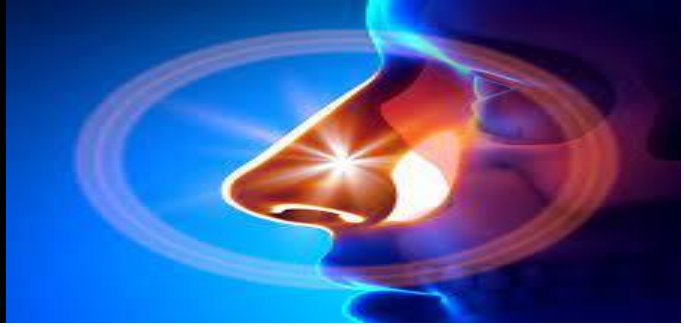


Figure 1. Allergy and rhinitis prevalence in COPD and asthma patients

Discussion: According to this study, asthmatics had higher rates of rhinitis and allergies than people with COPD. Compared to COPD, asthmatics experienced higher allergic symptoms.[1] According to the BREATHE study, compared to patients with COPD, patients with asthma had higher rates of childhood asthma, atopic dermatitis, and allergic rhinitis. In comparison to patients with COPD, patients with asthma, asthma + COPD, and others exhibited higher sputum eosinophilia but lower sputum neutrophilia.[3]

Conclusion: This study concluded that allergy symptoms and rhinitis were more common in asthma than in COPD but were related to poorer outcomes in both conditions. This emphasized the significance of assessing and treating concomitant allergies and rhinitis in both asthma and COPD.

Asthma has more allergic symptoms and rhinitis than COPD; however, both conditions were associated with poorer outcomes.

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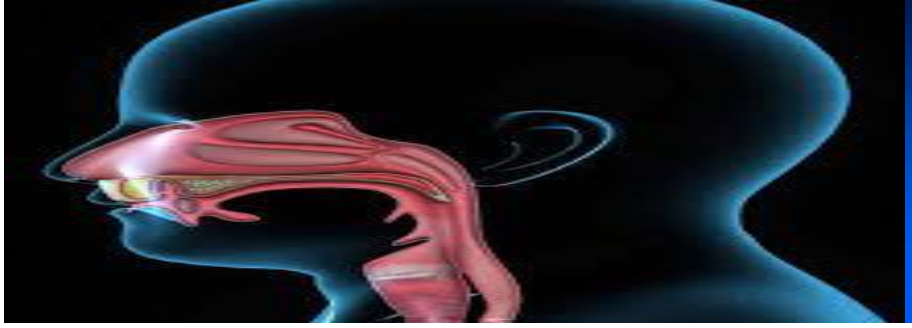
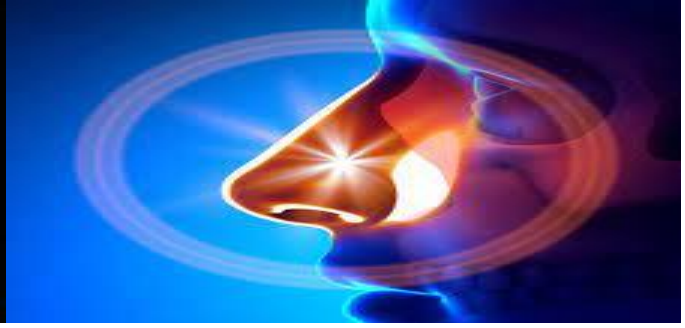

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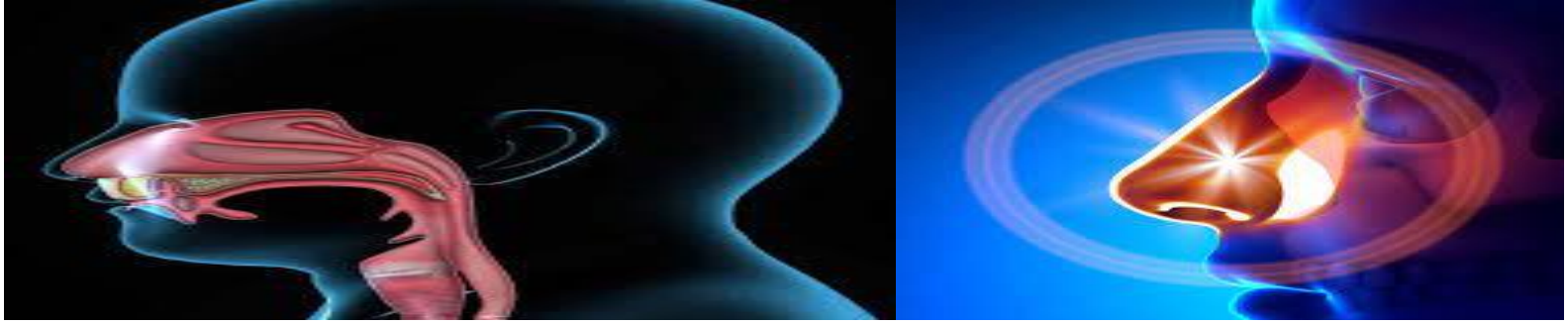
Evaluation of high-definition laryngoscopy value in detecting pyriform sinus fistula

Introduction: Pyriform sinus fistula (PSF) is a congenital branchial cleft and pouch anomaly that arises from the third or fourth pouch remnants. PSF is responsible for 4–8% of all branchial abnormalities. The pyriform fossa's base is the source of the third branchial abnormality, whereas the apex is the source of the fourth. They are both called PSFs because they have comparable clinical signs and have the same pyriform sinus apertures.[1] The PSF can be detected by direct laryngoscopy, magnetic resonance imaging (MRI), computed tomography, barium swallow, and ultrasound scan, although their accuracy is still not excellent enough. Research indicates that the success rate of endoscopic surgery is comparable to that of hemithyroidectomy combined with fistulectomy. The diagnosis of PSF hence depends critically on the preoperative determination of the inner orifice. To properly expose the pyriform fossa, a new transnasal high-definition laryngoscopy (HDL) procedure has been developed. The techniques include having the patient do the Valsalva balloon-blowing procedure, tugging the anterior cervical skin, and asking them to enunciate the English letter "e." The pyriform fossa may be clearly visible with these motions.[2] So, the purpose of this study was to evaluate the usefulness of high-definition laryngoscopy (HDL) in PSF diagnosis.

Methods: A total of 56 PSF patients were included in this observational study. General anesthesia was not used during HDL procedures. Clinical features such as demographics, symptoms, side effects, barium swallow, HDL, treatment methods, and postoperative pathology were studied. The features of laryngoscopy were examined. The presence of PSF was indicated by an inner opening in the pyriform fossa. HDL and barium swallow were evaluated for diagnostic accuracy.

Results: The study involved 33 males and 23 females. Most individuals experienced PSF on the left side of the neck. 16 patients (28.6%) had substantial edema in the aryepiglottic fold, making it impossible to see the inner orifice. Following anterior cervical skin traction, 48 patients (85.7%) had a good view of the pyriform fossa's inner opening (Figure 1). Barium swallow had an 89.2% positive predictive value, while HDL had a 96.4% positive predictive value. Anterior cervical skin traction combined with the Valsalva maneuver may provide a better view of the inner orifice in the pyriform fossa than pronouncing the English letter "e"



alone (χ 2 = 11.187, p <0.05). However, HDL did not significantly vary from barium swallow in terms of identifying PSF (χ2 = 2.598, p >0.05).

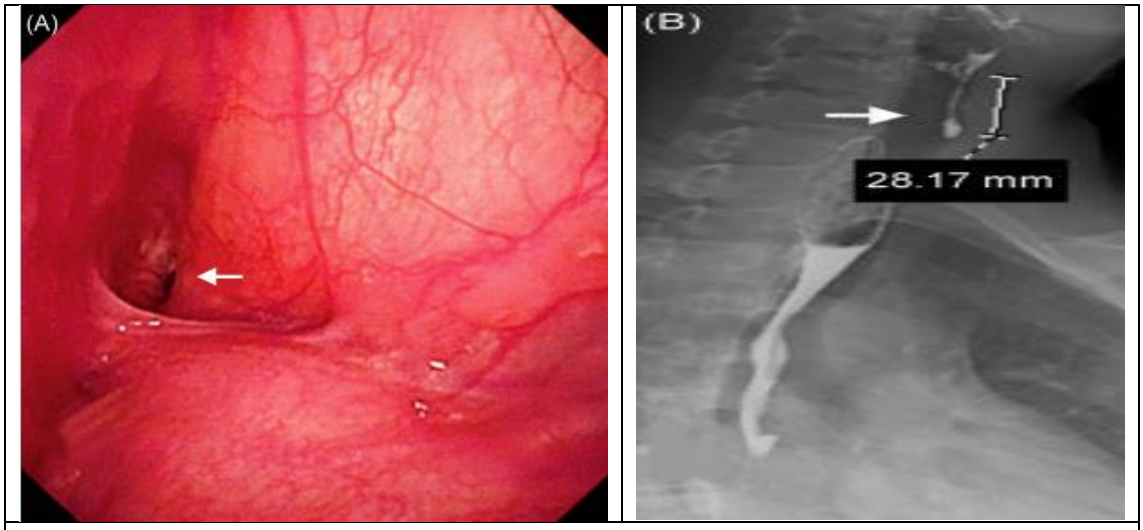
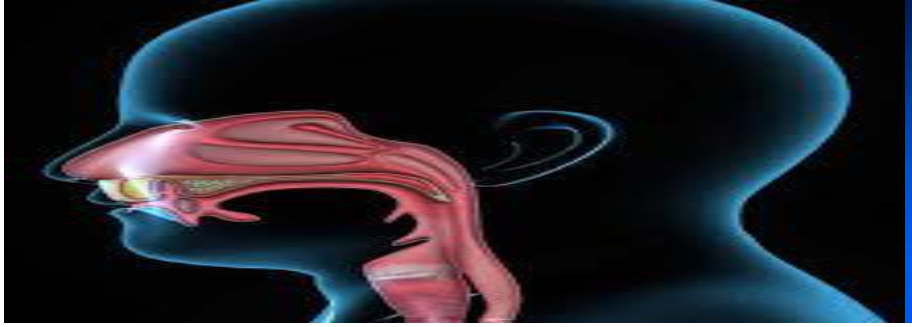


Figure 1. A high-definition laryngoscopy and barium swallow of a 16-year-old child. (A) The inner orifice in the left pyriform fossa was found by high-definition laryngoscopy (arrowhead), (B) A left pyriform sinus fistula was shown by barium swallowing (arrowhead). The fistula was around 28.17 mm in length.

Discussion: This study suggested that barium swallow could be administered 7–10 days after antibiotic treatment and incision and drainage (I&D). Barium swallow accuracy was 89.2%. In hospitals, HDL was frequently used to diagnose PSF.[2] Li Y et al. revealed that after an acute inflammatory phase, barium swallowing is advised for about 4-6 weeks.[3] HDL diagnosis accuracy can be increased during I&D and antimicrobial therapy. A false-negative result was achieved if HDL was conducted during the acute phase, as the patient was unable to comply due to cervical pain and mucosal edema.[2]

Conclusion: The current study concludes that in PSF patients, both preoperative HDL and barium swallow should be performed once the acute infection has resolved. It was possible to determine the length and location of the sinus tract using a barium swallow. HDL can immediately examine the pyriform fossa's interior orifice. A follow-up HDL procedure doesn't require radiation or general anesthesia.

High-definition laryngoscopy (HDL) can be used in conjunction with a barium swallow to accurately diagnose pyriform sinus fistula (PSF).

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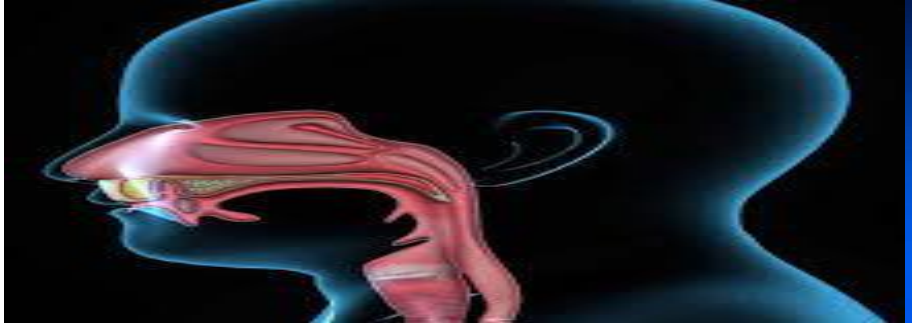
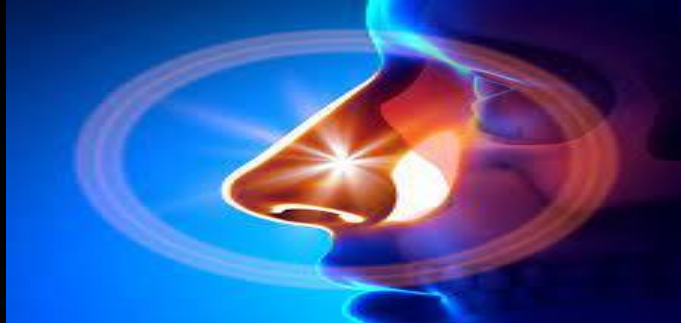
Case report on chronic invasive fungal sinusitis resembling a sinus malignancy

Introduction: Chronic invasive fungal sinusitis (CIFS) is an uncommon type of invasive fungal sinusitis. If treatment for this insidious fungal infection is not received, it can spread intracranially and result in serious illness and death. Distinguishing CIFS from the more prevalent acute variant is crucial. Acute, chronic, and granulomatous invasive fungal sinusitis (IFS) are the three types of IFS that were reported by DeShazo et al.[1] Histological evidence of fungal invasion in the soft tissue and sinus lining was used to diagnose CIFS. The most prevalent fungal sources for CIFS are from the Mucorales order, with Mucor and Rhizopus being the most common genera. Inhalation is the most frequent mode of infection for these fungi, which are typically found in manure and soil. The organism starts to spread across the structures by direct invasion as well as vessels, first colonizing the oropharynx, nasopharynx, and sinuses.[2] CIFS is like granulomatous IFS in that it progresses more slowly, but it can still cause fungal angioinvasion-induced tissue necrosis and even spread to the orbit and brain.[1] This case report details an immunocompetent patient who developed a nasopharyngeal tumor that was later diagnosed as CIFS.

Case presentation: A 78-year-old male patient was admitted to the hospital with chief complaints of nasopharyngeal and sphenoid sinus mass. The patient has no history of immunocompromised or diabetes mellitus. A nasopharyngoscopy revealed no ulceration and fullness of the right nasopharyngeal submucosa. The sphenoid sinus was involved in the nasopharyngeal tumor that was seen by a contrast-enhanced CT scan. A nasopharyngeal biopsy performed on the patient in the operating room revealed no evidence of cancer. The patient received an image-guided sphenoidotomy and biopsy with an intraoperative frozen section since malignant pathology remained a worry. Pathology from the frozen slice showed signs of fungal components and inflammation but no signs of angioinvasion. Following an MRI, which revealed involvement of the right temporal lobe and cavernous sinus, the final pathology revealed fungal angioinvasion consistent with invasive fungal sinusitis (IFS) (Figure 1). Endoscopic sinus surgery was performed on the patient, which involved drill-out of the sphenoid sinus, nasopharynx to the base of the clivus, and prolonged dissection of the pterygopalatine and infratemporal fossae (Figure 2). There was a thorough immunocompetency workup, which was unremarkable. Following surgery, the patient has been recovering well from long-term antifungal medication.

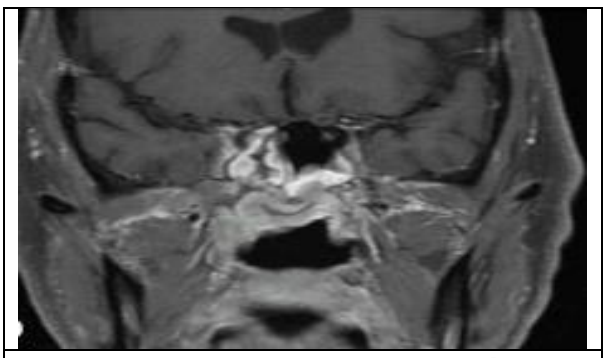


Figure 1: Preoperative MRI showing augmentation of the right temporal lobe and cavernous sinus.

Discussion: Immunocompetent individuals experiencing invasive fungal sinusitis is still a relatively uncommon occurrence with a significant mortality rate. In addition, if a diagnosis is delayed, the illness may spread quickly, resulting in widespread necrosis of the soft and hard tissues and the need for significant reconstructive and ablative surgery.[2] Clinical results are enhanced by early detection and treatment of CIFS. As the disease progresses, the treatment approach may change and be tailored based on the patient's medical history, the extent of the infection, and the necessity of completely excising any infected paranasal tissues.[3]

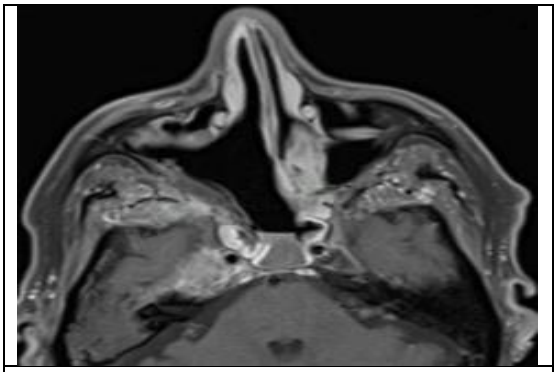
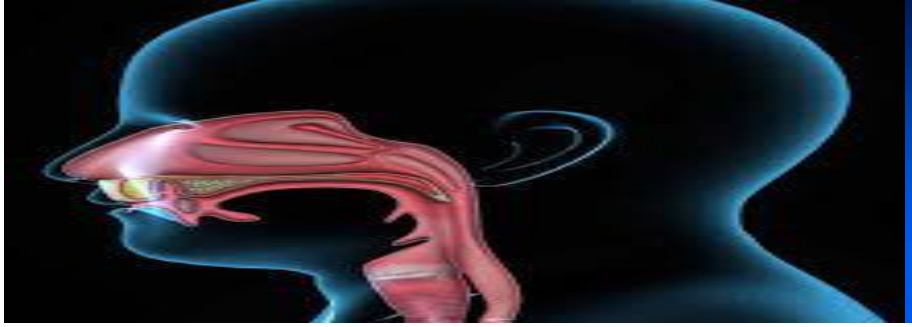
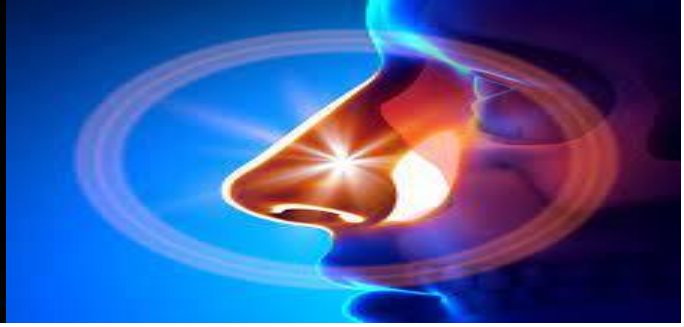


Figure 2: Right cavernous sinus involvement with disease surrounding the right internal carotid artery as shown on a postoperative magnetic resonance imaging scan.

Conclusion: Early-stage CIFS may appear as a sinonasal tumor on CT imaging, delaying diagnosis. Even in patients who are immunocompetent, CIFS needs to be considered as a component of the differential diagnosis when assessing atypical sinonasal lesions.

Magnetic resonance imaging (MRI) and histological examination are the gold standard for confirming chronic invasive fungal sinusitis (CIFS).

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