CASE REPORT

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The First Case of Fibroepithelial Polyp Originated from the Maxillary Sinus

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ABSTRACT A fibroepithelial polyp is a mucosal polypoid lesion comprising connective tissue and covered by benign local epithelium. They can occur on any area of the body with an epithelial surface. We report a fibroepithelial polyp of the right maxillary sinus as the first case of fibroepithelial polyp of the paranasal sinuses which presented with unilateral nasal obstruction. The patient completely recovered after surgical treatment. The differential diagnosis of unilateral sinonasal growing masses in elderly patients includes various benign and malignant diseases and fibroepithelial polyp should be considered as a possible diagnosis. Nasal fibroepithelial polyps are treated surgically and have a favorable prognosis.

Keywords: Fibroepithelial polyp; unilateral nasal obstruction; paranasal sinus tumor; sinonasal polyp; unilateral sinonasal mass

A fibroepithelial polyp (FEP) is a benign lesion of mesodermal origin that most commonly originates in the skin or genitourinary tract.[1] The prevalence of FEP is approximately 1.2%, with a male predilection.[2] Although chronic inflammatory, infectious, and traumatic factors have been suggested in the etiology of FEP, they can occur independently, and the ultimate pathogenesis of the disease remains unknown.[3] A FEP is benign and presents with an indolent clinical course. Problems may arise depending on its location, especially in cases of FEP in the respiratory tract that cause obstruction.[1] As mentioned above, the skin and genitourinary tract are common sites for FEP, while the head and neck region are rare sites, including the external auditory canal, middle ear, nasal cavities, tonsils, hypopharynx, trachea, and bronchus.[1-6] To our knowledge, no FEP arising from the paranasal sinus has been reported in the English-language literature. Here, we present the first case of FEP occurring independently in the maxillary sinus.

CASE REPORT

A 73-year-old woman presented to the Ear, Nose, and Throat Service with a 1-year history of slowly progressive right-sided nasal obstruction. Her medical history was unremarkable, except for arterial hypertension. Nasal endoscopy showed a lobular polypoid mass originating from the right osteomeatal complex, filling the right nasal cavity and extending to the choana (Video clip).

There was no facial asymmetry, and the ear and throat examinations were normal. Routine blood work was normal, including a complete blood count, C-reactive protein, erythrocyte sedimentation rate, and liver and renal profiles. The chest X-ray was unremarkable.

Computed tomography (CT) revealed a soft-tissue opacity with a lobulated contour that almost completely filled the right maxillary sinus without any sinus invasion or bony destruction. The mass passed through the maxillary ostium into the nasal cavity, filling the middle and lower nasal meatus and reaching the nasopharynx (Figure 1).

Magnetic resonance imaging showed a well-circumscribed 19×12 mm mass originating in the right maxillary sinus that almost completely filled the sinus and passed through the maxillary ostium into the right nasal cavity, reaching the nasopharynx. The mass was hypointense on non-enhanced T1-weighted images and had a non-homogenous hyperintense signal intensity on T2-weighted images. After gadolinium-enhanced dynamic imaging, the mass showed marked, non-homogenous enhancement that peaked 60 s after an intravenous bolus of gadolinium (Figure 2). From the radiological findings, the differential diagnoses included an antrochoanal polyp, inverted papilloma, and other benign and malignant tumors.

After obtaining informed consent, endoscopic sinus surgery was performed. This revealed that the tumor originated from the medial wall of the right

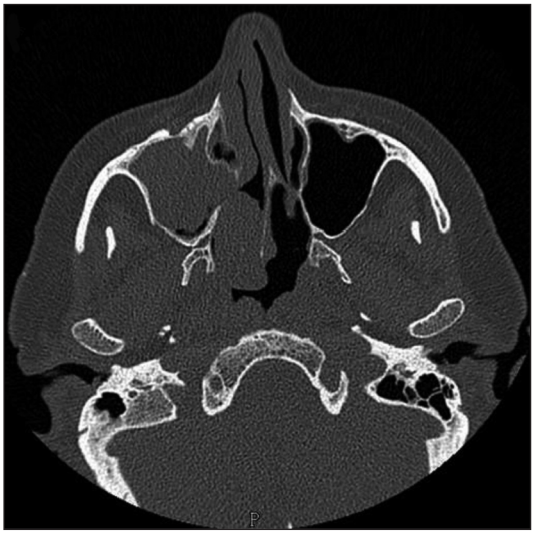

FIGURE 1: Computed tomography of the paranasal sinuses in the axial plane shows a soft-tissue opacity with a lobulated contour that almost completely filled the right maxillary sinus, passed through the maxillary ostium into the nasal cavity. Appearance of bone tissues around the mass seem to be normal.

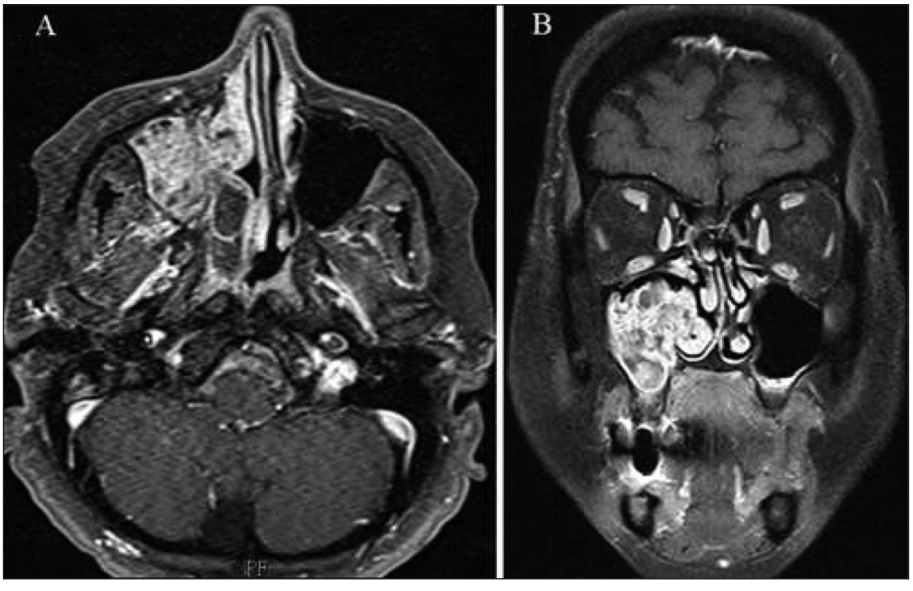

FIGURE 2: Magnetic resonance Imaging of the paranasal sinuses in the axial T1-weighted plane shows a well-circumscribed hypointense mass with non-homogenous, intensive contrast enhancement **(A)** and a non-homogenous hyperintense signal intensity on T2-weighted coronal image **(B)**.

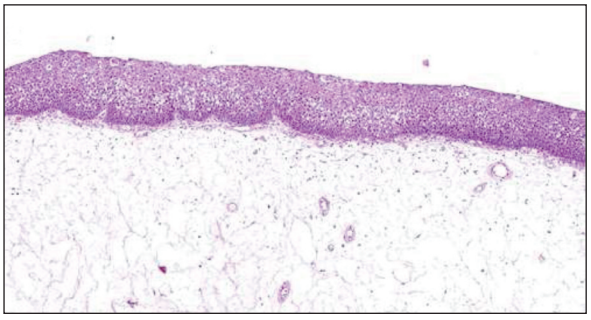

FIGURE 3: Photomicrograph showing fibrovascular stromal tissue covered by squamous epithelium with pseudostratified respiratory epithelium and glandular epithelium remnants (hematoxylin and eosin, 100× total magnification).

maxillary sinus. During surgery the tumor appeared very stiff. A uncinectomy was performed and the posterior part of the lower turbinate and medial wall of the maxillary sinus was resected for adequate visualization. The entire tumor was removed (Video clip). Histopathologically, the lesion consisted of fibrovascular stromal tissue with numerous dilated, hyalinized vessels and was covered by squamous epithelium with pseudostratified respiratory epithelium and glandular epithelium remnants. Areas of reactive epithelial changes, including acanthosis and hyperkeratosis, were also found (Figure 3). These findings were compatible with FEP.

One month after resecting the polyp, the postoperative wound had epithelialized completely and the nasal obstruction had resolved. At the 6-month follow-up, nasal endoscopy showed no signs of disease (Video clip).

DISCUSSION

The differential diagnosis of sinonasal masses presenting with unilateral nasal obstruction encompasses a wide spectrum of disease, including inflammatory polyps, papillomas (inverted papilloma and fungiform papilloma), vascular lesions (capillary hemangioma, solitary glomangioma, angioleiomyoma, glomus tumors, etc.), bony tumors (osteoma, ameloblastoma, and fibrous dysplasia) and, more rarely, malignant tumors (adenoid cystic carcinoma, adenocarcinoma, squamous cell carcinoma, mucoepidermoid carcinoma, etc.).[7-10]

Benign neoplasias of the nose and paranasal sinuses are relatively common.[11] Cancers of the nose and paranasal sinuses account for less than 1% of all malignancies and about 3% of all head and neck cancers.[10] Although simple nasal and antrochoanal polyps are the most common non-neoplastic sinonasal masses (75%), other benign and malignant neoplastic disorders must be considered, especially when the mass is unilateral.[7,10] When sinonasal tumors cause bony erosion or show expansion, malignant tumors must be considered. There was no bony erosion or expansion to the surrounding tissue in our patient, although the mass filled and overflowed the maxillary sinus and reached the choana.

A FEP is a benign solitary lesion with an extremely low malignant potential. It is a mucocutaneous lesion that may occur in any area of the skin and in all organs with cavities. FEPs arising from the nasal cavity are rare and there have been reports of cases originating from the inferior turbinate and nasal floor.[4,12] A literature search of the following databases was performed on 27 june 2018: PubMed, google scholar, Cochrane Library, and Web of Science. The search words included the medical subject headings (MeSH) for paranasal sinus in combination with MeSH for fibroepithelial polyp. No articles were found in the search results.

The clinical features and prognosis of the disease depend primarily on the location and size of the growing mass. For instance, FEPs of the skin mainly create cosmetic problems, FEPs of the genitourinary system usually manifest as obstruction (or occasionally hematuria), and FEPs of the respiratory system present with respiratory problems.[6,13] Our patient presented with unilateral nasal obstruction.

Infection is suspected most frequently in the etiology of FEPs of the genitourinary system, while trauma is usually suspected in the etiology of FEPs of the upper airway.[4,13] However, our patient had no history of infection or trauma.

A FEP can involve considerable diagnostic difficulties because of its unusual location and ten-

dency to mimic other sinonasal neoplasms. The diagnosis of FEP is made by considering the symptoms, patient's history, and findings of physical, radiological, and histopathological examinations. The radiological findings of FEP are nonspecific, but important in differentiating them from malignant tumors when planning their management.[14]

Histologically, a FEP consists of fibrovascular stromal tissue covered by normal epithelium of the organ from which the FEP originated. Compared with papillomas, FEPs lack squamous epithelial overgrowth.[14]

Considering their potential for growth and possible complications (compression of neighboring organs, obstruction, and malignant conversion), the treatment of choice for FEPs is surgical excision.[5,6,11] However, the literature contains reports of FEP treated with chemotherapy or radiotherapy.[12]

In conclusion, a sinonasal FEP is an extremely rare, benign neoplastic disorder, which can mimic many malignant and benign neoplasms, making it a diagnosis of exclusion. Surgical excision of FEP of the nasal cavity and paranasal sinus is curative and should be performed to obtain a definitive diagnosis and avoid complications.

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Authorship Contributions

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REFERENCES

1. Li M, Zhang G, Peng A, Wang C. Bronchial fibroepithelial polyp: a case report and review of the literature. Intern Med. 2013;52(3):373-6. [Crossref] [PubMed] [PMC]
2. Bouquot JE, Gundlach KK. Oral exophytic lesions in 23616 white Americans over 35 years of age. Oral Surg Oral Med Oral Pathol. 1986;62(3):284-91. [Crossref]
3. Tanaka N, Matsunobu T, Shiotani A. Fibroepithelial polyp of the external auditory canal: a case report and a literature review. Case Rep Otolaryngol. 2013;2013:818197. [Crossref] [PubMed] [PMC]
4. Peric A, Matkovic-Jozin S, Vukomanovic-Durdevic B. Fibroepithelial polyp arising from the inferior nasal turbinate. J Postgrad Med. 2009;55(4):288-9. [Crossref] [PubMed]
5. Telugu RB, Ashish G. Fibroepithelial polyp of the tonsil: report of a rare case. J Clin Diagn Res. 2015;9(12):ED17-8. [Crossref] [PubMed] [PMC]
6. Farzal Z, Ulualp SO, Rakheja D. Fibroepithelial polyp of the epiglottis. Am J Case Rep. 2014;15:340-2. [Crossref] [PubMed] [PMC]
7. Yu MH, Chen CL, Liu XL, Xu XW. Differential diagnosis of a carcinoma of the maxillary sinus that resembles a sparganum infection: a case report. Exp Ther Med. 2015;10(4):1324-6. [Crossref] [PubMed] [PMC]
8. Tam YY, Wu CC, Lee TJ, Lin YY, Chen TD, Huang CC. The linicopathological features of sinonasal angiomatous polyps. Int J Gen Med. 2016;9:207-12. [Crossref] [PubMed] [PMC]
9. Promsopa C. Septochoanal polyp with osseous metaplasia: a case report. J Med Case Rep. 2016;10(1):149. [Crossref] [PubMed] [PMC]
10. Bakari A, Afolabi OA, Adoga AA, Kodiya AM, Ahmad BM. Clinico-pathological profile of sinonasal masses: an experience in national ear care center Kaduna, Nigeria. BMC Res Notes. 2010;3:186. [Crossref] [PubMed] [PMC]
11. Laren PL, Tos M. Anatomic site of origin of nasal polyps: endoscopic nasal and paranasal sinus surgery as a screening method for nasal polyps in autopsy material. Rhinology. 1994;33:185-8.
12. Firat Y, Durgun Y, Kizilay A, Selimoğlu E. [An unusual complication of nasogastric tube: Intranasal fibroepithelial polyp]. KBB ve BBC Dergisi. 2008;16(2):78-81.
13. Ludwig DJ, Buddingh KT, Kums JJ, Kropman RF, Roshani H, Hirdes WH. Treatment and outcome of fibroepithelial ureteral polyps: a systematic literature review. Can Urol Assoc J. 2015;9(9-10):E631-7. [Crossref] [PubMed] [PMC]
14. Kang H, Kim TS, Han J, Kim H. Fibroepithelial polyp of the bronchus: CT and histopathologic findings. Korean J Radiol. 2012;13(3):355-7. [Crossref] [PubMed] [PMC]