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Case Report

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Mucocele of the nasal septum post inferior turbunectomy

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ABSTRACT

Paranasal mucocele is a benign cystic lesion. Mostly in the fronto-ethmoidal sinuses. Mucocele of the nasal septum is extremely rare. We report a septum mucocele in a 20-year-old male presenting with bilateral nasal obstruction occurred after inferior turbunectomy. Clinical and radiological features are presented and discussed.

Keywords: Mucocele, Nasal Septum, Inferior turbunectomy

INTRODUCTION

Paranasal sinuses mucoceles are benign, expansile cystic masses covered by respiratory epithelium, resulting from accumulation and retention of mucus secretion. These lesions are thought to be secondary to an obstruction of the sinus ostium caused by an inflammation, trauma, fibrosis or previous surgery.[1] Symptoms of the paranasal sinus mucoceles may vary depending on the size and location of the mucocele. Mucocele of the nasal septum is extremely rare and first reported in 2002 by Gall and Witterick and 6 cases have been reported so far in the literature.[2-5,7]

CASE REPORT

A 20-year-old male patient visited our outpatient clinic complaining of bilateral nasal obstruction, rhinorrhea and nasal discharge for one year duration, He also reported nasal pain and headache. He gave history of nasal surgery inform of endoscopic partial inferior turbunectomy 3 months prior to his present complain. Anterior rhinoscopy revealed bilateral septal swelling prominently left side, lead to septum deviation to the right side. Endoscopic examination couldn't be done because there was no space to pass the scope from either side of the nasal cavity. The rest of the otolaryngologic examination including cranial nerve examination and ophthalmic examination was normal.

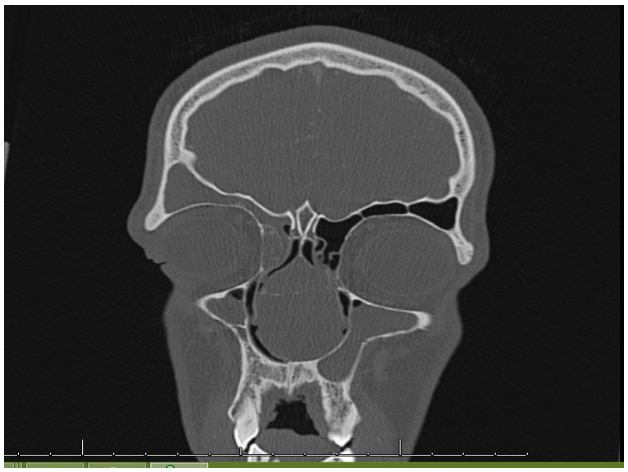

Figure 1: CT scan coronal view showing a mass within the nasal septum.

Radiological investigation was done, Computed tomography (CT) with contrast (Figure.1) and magnetic resonance imaging (MRI) to role out intracranial involvement (Figure 2 and 3) showed a large midline septal mass without intracranial extension.

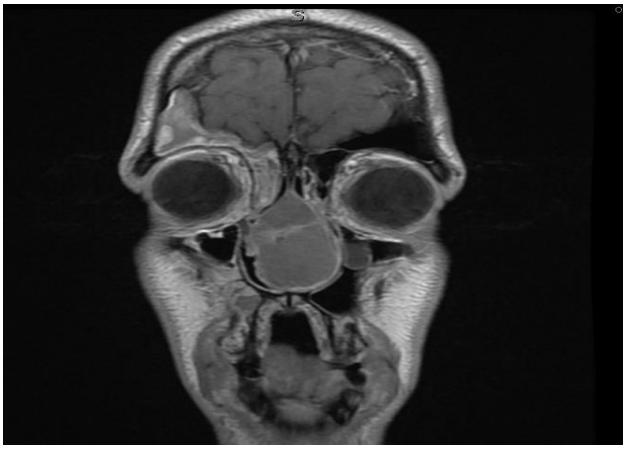

Figure 2: Magnetic resonance imaging coronal view showing a mass within the nasal septum.

Figure 3: Magnetic resonance imaging axial view showing a mass within the nasal septum.

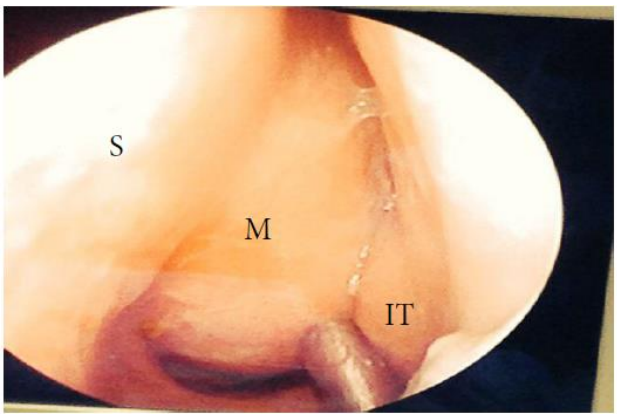

Figure 4: Intraoperative endoscopic picture of the M (mucocele), IT (inferior turbinate), S (nasal septum).

The patient underwent endoscopic drainage and total excision of the mass under general anaesthesia. The mucocele was filled with mucoid fluid and was drained out, there were no remnants of cartilage or bony septum identified within the septal mucocele, it was excised completely and sent for histopathological evaluation. Nasal pack was applied and taken out after one day. The lesion was confirmed by histopathology as a benign cyst consistent with mucous cyst. During the 6-month-follow-up there was no recurrence confirmed by serial endoscopies and the patient has no complain.

DISCUSSION

Langenback first described mucoceles in 1819, but it was Rollet who introduced the term mucocele in 1896 and Turner differentiated the frontal from the ethmoidal lesion.[1]

Paranasal mucoceles are benign lesions with the potential for adjacent bony remodeling and resorption. They have a slow growing pattern but they can destroy neighboring structures by compression and expansion. They can take many years for them to become symptomatic.[2]

Mucoceles primarily occur in the frontal sinuses (60-65%), but may also be found in ethmoid sinuses (20-25%), maxillary sinuses (10%) and sphenoid sinuses (1-2%).[6] Paranasal sinuses mucoceles may be found in atypical locations, such as nasal eptum ,nasolacrimal duct, intersinus cell, orbital floor, root of the nose, pterygomaxillary space and middle turbinate in a concha bullosa.[2-8]

The exact etiology and pathogenesis of mucoceles still remain uncertain. Usually mucoceles are post-inflammatory complications (allergy, chronic infection, chronic inflammatory condition, mucociliary dysfunction) but less usually, may be secondary to neoplastic obstruction (osteoma, juvenile nasoangiofibroma, carcinoma), inflammatory processes (caldwell- Luc procedure) and post-traumatic processes (iatrogenic accidents), generally with long-term progression. Traumas and pneumatoceles were seen as most common etiologic factors for mucocele of the nasal septum. Trauma can be surgical, such as nasal surgery with or without septoplasty like our patient we are presenting, and non-surgical such as foreign body.[4,6,7]

Nasal septal mucocele are usually diagnosed before destroying the surrounding tissues, due to the relatively early symptomatic because of anatomic localization. High resolution computedtomography scan (HRCT) is the preferred diagnostic imaging modality. On HRCT, mucoceles appear as a homogenous round or oval mass with surrounding bony erosion. The differentiation between a mucocele versus an expansile mass may be made with magnetic resonance imaging (MRI). MRI is helpful in clarifying soft tissue extension to the cranium and orbit. It also helps in differentiating from other soft tissue masses with potentially similar presentation such as meningocele, rhab-domyosarcoma, hemangioma, and neuroblastoma.[4-9]

The cyst is mainly lined by pseudostratified ciliated columnar or cuboidal epithelium but sometimes it may be

lined with areas of squamous epithelium. There is cellular infiltrate comprising neutrophils, lymphocytes, plasma cells, and eosinophils. Subepithelial lymphoid aggregates and vascularity are also seen. Osseous elements are woven bone, lamellar bone, osteoblasts, and osteoclasts.[8] Our histopathology report showed a nasal tissue with cystic space lined by flattened epithelium with focal areas showing hyperplasia of respiratory epithelium with chronic inflammatory cells.

All six reported cases have been successfully treated via surgery with endoscopical approach. Gall et al, Hermann et al and Lei et al performed partial excision and marsupialization in their cases. Yılmaz et al and Taşkın et al reported that they excised the mucocele completely. There was no reported complication or recurrence after treatment in literature for nasal mucoceles.[4-7] In our case we excised the septal mucocele endoscopically this technique allows the operation to be performed under direct visualization with minimum mucosal trauma and bleeding.

Table 1: Reported cases of nasal septum mucocele.

Case	Duration	Trauma or surgery	Other	Location	Treatment
Gall R	12 months	Septoplasty 20 years ago	No	Midline superior	Endoscopic partial removal
Hermann P	3 months	FESS with no SP	No	Midline	Endoscopic partial removal
Leil L	3 months	FB reaction but no FB	Pneumatocele	Posterosuperior	Endoscopic partial removal
Yelmaz	12 months	No	Pneumatocele	Midline	Endoscopic total excision
Taskin U	6 months	No	Pneumatocele	Posterosuperior	Endoscopic total excision
Aynali G	6 months	Rhinoplasty with no SP	Pneumatocele	Midline	Endoscopic total excision
Halawani	12 months	Endoscopic pit	No	Midline	Endoscopic total excision

CONCLUSION

Mucocele of the nasal septum is rare but should be considered as one of the differential diagnosis of midline intra nasal masses. Previous nasal surgery with or without septoplasty (foreign body removed, sinus surgery and rhinoplasy) has been reported as case of septal mucocele. Our case demonstrates unique location for a mucocele following inferior turbunectomy.

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