

Pyocele of the Middle Turbinate

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Abstract Mucocoeles are rare lesions and the majority of mucocoeles are seen in the fronto-ethmoidal complex. A pyocele occurs when a mucocoele becomes infected. A case of pyocele arising from the middle turbinate is reported along with the review of literature.

Keywords Middle turbinate, Pyocele, Mucocoele

1. Introduction

The middle turbinate is part of the ethmoid bone. It may be cellular, or cystic. Enlargement of cystic turbinate may result in deranged nasal physiology of the paranasal sinuses. Mucocoeles are epithelial-lined cavity containing mucus and they slowly expand [1]. Pneumatised middle turbinate is known as concha bullosa. The pathogenesis of infections of the concha bullosa region is unclear. The concha bullosa has a mucociliary transport system which connects the aerated cell to the frontal recess, lateral sinus or hiatus semilunaris, through an ostium. Obstruction of the ostium and inflammatory changes within it can cause mucocoele in the concha bullosa. A pyocele occurs when a mucocoele becomes infected [1, 2]. This is, to our knowledge, the third case of middle turbinate pyocele reported in the literature.

2. Case Report

An 18 year old female patient presented with history of nasal obstruction on the left side. Initially it was partial nasal obstruction and gradually progressed to the present state. There was no history of nasal discharge, pain or fever. There were no other rhinological or ophthalmological symptoms. There was no history of trauma or surgery. Patient did not find any improvement with antibiotics medicines and steroid nasal spray.

Anterior rhinoscopic examination showed a large mass in the left nasal cavity arising in the middle turbinate region. On probing it was found to be bony hard and it was arising from the lateral wall of the left nasal cavity. There were no signs of overt infection in the nasal cavity or nasopharynx. Diagnostic endoscopy showed a mass in the region of middle turbinate and it was hard on palpation [Figure 1].



Figure 1. Endoscopic picture showing mass in the middle turbinate region

The CT scan showed a large bony cystic mass arising from the lateral wall of the left nasal cavity and it was in the middle turbinate region [Figure 2].

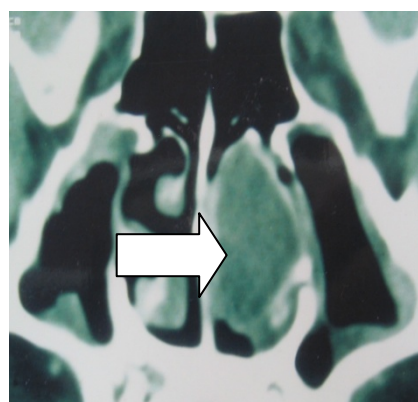


Figure 2. CT scan picture showing cystic mass (arrow) arising from the lateral wall of the left nasal cavity

A provisional diagnosis of a cystic lesion of the middle turbinate was made. Under general anaesthesia, left nasal cavity lesion was approached through transnasal endoscopic route. Mass was found to be enlarged left middle turbinate. An incision was made in the antero lateral part of the swelling. It was filled with mucopurulent pus. Lateral wall of the mass was removed and marsupialisation of the cyst was

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done. Antero inferior part of the middle turbinate was excised. Postoperative period was uneventful. Pus removed from the cyst was sent for culture and sensitivity and there was no growth. Following surgery, patient had complete resolution of symptoms at third week of follow-up [Figure 3].

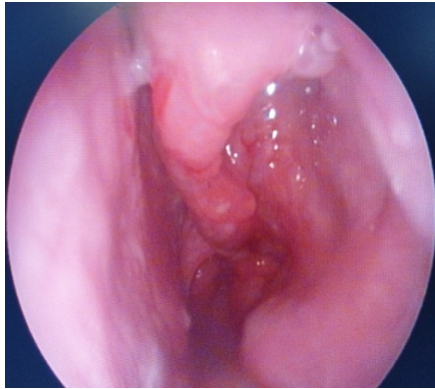


Figure 3. Postoperative endoscopic picture (after three weeks) showing the left middle turbinate

Histopathological examination of the specimen of the specimen showed a shell of mature bone, a lining of respiratory epithelium, and mucosa showed chronic inflammatory changes. These histological features were suggestive of with chronic infection.

3. Discussion

Concha bullosa is the pneumatization of the middle turbinate and is one of the most common variations of the sinonasal anatomy. It may be cellular, or cystic. Enlargement of the middle turbinate can alter the nasal physiology, with disturbance in air-flow and obstruction to the natural drainage of the paranasal sinuses. This can result in facial pain or sinusitis [1, 3]. In the present case patient did not had any facial pain, sinusitis or epiphora.

Mucocele usually arise in the frontal or ethmoid sinuses, and these are well documented [4]. A pyocele occurs when a

mucocele becomes infected. Review of literature showed only two reported cases of isolated pyocele of the middle turbinate [1, 2]. Initially an enlarging middle turbinate may be asymptomatic, because nasal cavity has a large empty space to fill before causing any symptoms. It should be distinguished from a neoplasia [2]. Cases of cholesteatoma of the concha bullosa presenting as cystic lesions of the middle turbinate, has been reported and it should be considered in the differential diagnosis [5]. Diagnostic nasal endoscopy and CT scan of nose and paranasal sinuses play a very important role in the management of these conditions.

First case of pyocele of the middle turbinate was reported by Irwin and lesion was operated through lateral rhinotomy approach [1]. Second case was reported by Badia et al and lesion was operated through intranasal approach [2]. Our patient was operated through transnasal endoscopic approach. This is safe and gives good results.

Pyocele of the middle turbinate is rare. An otolaryngologist should be familiar with this rare clinical entity. This is, to our knowledge, the third case of middle turbinate pyocele reported in the literature.

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