

Spontaneous maxillary mucocele: Diagnosis and management

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Abstract

Introduction and Importance: Paranasal sinus mucoceles are benign lesion that usually result from tumors, inflammation and face trauma. Seldom, these lesions can occur spontaneously. Delayed diagnosis or inadequate management can result in severe complications.

Case Presentation: We report a case of a 67 -year-old man with no medical or surgical rhinological history, referred to our department for fortuitous discovery on imaging of a mass of the maxillary sinus. Facial pain was the only complaint of the patient. Computed tomography and magnetic resonance imaging confirmed the diagnosis of mucocele. The patient had endoscopic surgery with uneventful evolution.

Keywords: Maxillary sinus; Spontaneous; Mucocele.

Introduction

Maxillary sinus mucocele is a rare and benign lesion that accounts for approximately 10% of all paranasal sinus mucoceles [1]. Although it is a slow growing tumor, it can cause bone erosion and remodeling [2] resulting in facial asymmetry, pain and other symptoms depending on its extension. We report in this study a case of spontaneous maxillary mucocele causing facial and hard palate deformity.

Case presentation

A 67 -year-old man was referred to our department for evaluation and treatment of a left midfacial deforming mass. At the beginning, it was not clinically apparent and was incidentally discovered on a CT scan without contrast done four months previously to explore an ischemic stroke. There was no history of cranial trauma or rhinological complaints. Presenting symptoms were limited to a slight inflammatory facial pain evolving for one year. On clinical examination, a painful left sided swelling of the face without visible skin lesions was observed (Figure 1). A left palatal submucosal swelling was present on examination of the oral cavity (Figure 1). This same tumefaction was present on the endo-nasal endoscopic examination deforming the inter sinuso-nasal septum.

The CT scan showed a hypodense opacification of the left maxillary sinus eroding its bony walls. It measured 40 * 30 * 46 mm with a liquid density according to the CT scan Hounsfield scale approximation. The other paranasal sinuses were normal (figure 2).

Magnetic resonance imaging (MRI) confirmed the CT scan findings showing the left maxillary sinus mass with the following features: hyper-signal T2, hypo-signal T1 and Gadolinium peripheral enhancement. Besides the erosion of the left maxillary sinus walls, the left orbit floor was eaten up and lost its integrity (Figure 4).

Endoscopic sinus surgery was performed under general anesthesia. It consisted of a wide opening of the maxillary sinus with mucocele marsupialization. The postoperative course was uneventful.

Discussion

Mucoceleles are benign, mucus-containing cystic lesions. They are gradually expanding lesions involving paranasal sinuses. They usually result from an obstruction within the normal drainage ostia of paranasal sinuses leading to pent up secretions and a gradual expansion of the sinus cavity volume [3]. Mucocele is said to be secondary if there is an identifiable cause behind it, such as craniofacial trauma, chronic rhinosi-

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Figure 1: Physical examination of the patient: cheek and palate swelling (red arrows).

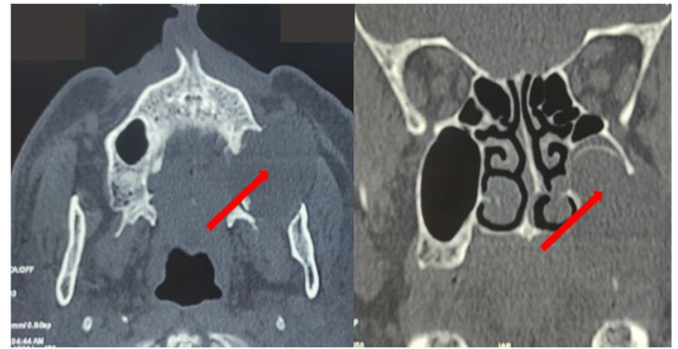


Figure 2: CT scan without contrast (axial and coronal sections): hypodense left maxillary sinus (red arrows).

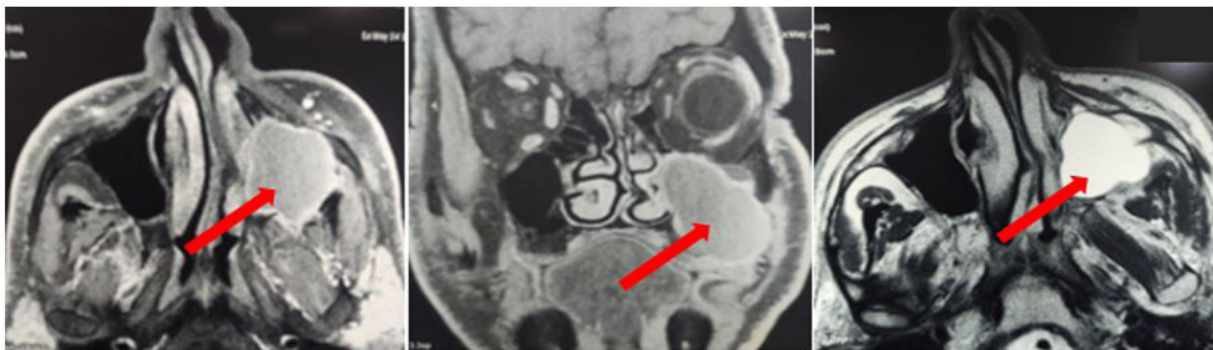


Figure 3: Contrast-enhanced Magnetic Resonance Imaging (MRI) (axial and coronal T1-weighted sections and axial T2-weighted section): hyper-signal T2, hypo-signal T1 and Gadolinium peripheral enhancement of a left maxillary sinus mass (red arrows).

nusitis or paranasal sinus surgery [4,5]. In some cases, there is no clear cause, the mucocele is then considered as spontaneous as illustrated by our case report.

Maxillary and sphenoid sinuses are less affected by this pathology than ethmoidal and frontal sinus [6]. Early diagnosis is often challenging due to this lesion slow growing and the poor clinical presentation which boils down to non-specific rhinological signs such as rhinorrhea, nasal obstruction, hemi-facial pain or swelling [7,8].

Although benign, mucoceles of the maxillary sinus can cause bony walls erosion and extend beyond the sinus cavity causing ophthalmic complications and facial deformities as illustrated by our case report. Sinus cavities' CT scan is essential for diagnosis and extension assessment [9]. CT scan is, indeed, efficient in detection of bone remodeling and erosion.

Surgery is the treatment of choice in paranasal sinus mucoceles. Surgical approach is usually endoscopic but can be external or mixed depending on the extension assessment and the availability of a technical endoscopic surgery tray. In all cases, surgery consists of a marsupialization of the cystic lesion, cleaning of its contents and middle meotomy when considering the maxillary sinus [10, 11]. In skilled hands, the endoscopic approach is associated with fewer complications compared to external approaches. However, the experienced surgeon must be wary of insufficient marsupialization, source of synechiae and recurrences. It is also necessary to keep in mind the idea of a possible tumoral process associated with

the mucocele in which case biopsy specimens must be sent for histological examination [12].

A CT scan may be indicated afterwards. It helps to assess marsupialization quality, sinus vacuity and possible re-ossification of sinus walls [13]. The follow-up in our case is insufficient to judge evolution. Paranasal sinuses' mucoceles can recur several years after surgery [14]. The recurrence rate varies according to authors from 3 to 35% [15]. In all cases, follow-up should be as long as possible.

Conclusion

Mucocele of the maxillary sinus are rare. Their diagnosis is often evoked when exteriorized or complicated. Nevertheless detecting early forms helps to avoid complications. Marsupialization through Endoscopic approach is currently the most recommended surgery technique. Clinical follow-up aided by imaging when needed is also mandatory to detect recurrences.

Patient informed Consent: Written informed consent was obtained from the patient for publication of this case report and accompanying images.

Conflict of Interest: All the authors declare no conflict of interest and have no financial or personal gains and benefits from this work.

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