

Case Report

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Maxillary sinus mucocele presenting with proptosis: A case reportMehmet Kelles¹, Yuksel Toplu², Mehmet Bozoglu², Soner Demirel³, Erkan Karatas², Ahmet Kizilay²¹Public Hospital, Department of Otorhinolaryngology, Malatya, Turkey²Inonu University, Department of Otorhinolaryngology, Malatya, Turkey³Inonu University, Department of Ophthalmology, Malatya, Turkey

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Abstract

Mucocele is a benign, cystic lesion of the paranasal sinus which grows slowly and becomes symptomatic after a long time. As its size increases the lesion expands out of the sinus. We reported a 16-year-old patient who presented with complaints such as left periorbital pain, shifting in the left eye and proptosis. Mucocele is most commonly seen in the frontal and ethmoid sinuses, while it is rare in the maxillary and sphenoid sinuses. We presented a case of maxillary sinus mucocele with orbital complaints

Keywords: Maxillary sinus, mucocele, endoscopic surgery, proptosis**Introduction**

Mucocele is a benign, cystic lesion of the paranasal sinus which grows slowly and becomes symptomatic after a long time. Signs and symptoms of mucocele depend on the localization of mucocele and the size of bone erosion which it caused. Several factors are known to play a role in its pathogenesis including trauma, prolonged chronic inflammation in the related area, previous surgeries and obstruction in the salivary glands with mucous content. Mucocele is most commonly seen in the frontal and ethmoid sinuses, while it is rare in the maxillary and sphenoid sinuses [1-3].

Orbital symptoms are usually caused by ethmoid, frontal and sphenoid induced mucoceles. Eye is rarely affected in maxillary sinus mucoceles [4,5].

In this report we present a case of maxillary sinus mucocele which destructed the maxillary sinus wall and left infraorbital rim and caused proptosis.

Case Report

A 16 year-old male patient was consulted to our clinic by the ophthalmic clinic with the complaints of left periorbital pain, shifting in the left eye and proptosis (Figure 1). Otorhinolaryngologic examination of the patient revealed proptosis in the left eye and palpable swelling in the lower eyelid. Paranasal sinus tomography and orbita tomography showed mass lesion in soft tissue density expanding from the left maxillary bone to the

sinus which destructed the sinus walls. The lesion was observed to destruct the bone, partly expanding into the left orbita inferior portion fatty tissue (Figure 2). Presumptive diagnosis was maxillary sinus mucocele. The patient was then scheduled for surgery. Uncinectomy and antrostomy were endoscopically performed and the maxillary sinus ostium was expanded followed by total excision of mucocele. Postoperative pathology outcome was reported as mucocele. Postoperative examination findings showed that proptosis (Figure 3) was resolved.

**Figure 1.** The image of shifting in the left eye and proptosis

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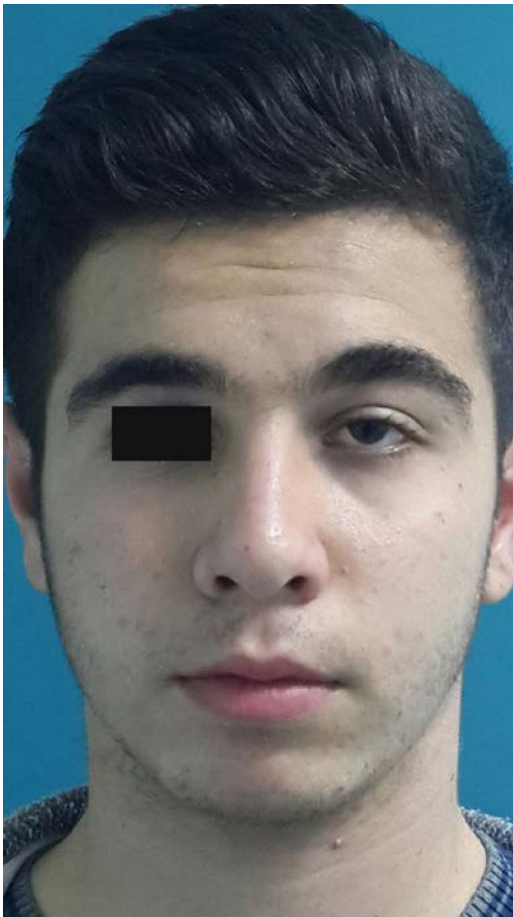


Figure 2. The image of preoperative tomography

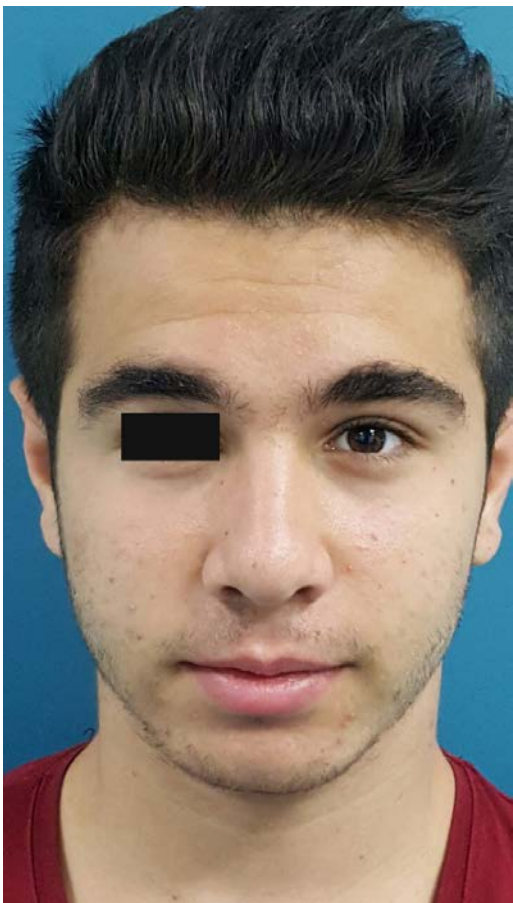


Figure 3. The image of postoperative findings of left eye

Discussion

The prevalence of maxillary sinus mucoceles varies from region to region. Lloyd et al. reported maxillary sinus mucocele in 1 (1%) of 121 patients with paranasal sinus mucocele [6]. In their series of 112 patients with paranasal sinus mucocele, Natwig and Larsen reported 3 (2.7%) maxillary sinus mucocele cases [7]. In contrary to the low prevalences in Europe, high rate of maxillary sinus mucoceles has been reported in Japan among the patients with a history of maxillary sinus operation. Hasegava et al. reported history of previous maxillary sinus surgery in 131 of 132 patients with maxillary mucocele [8].

Signs and symptoms of mucocele depend on localization of the lesion and extend of the bone erosion. These vary in a wide range from mild symptoms such as nasal obstruction, epiphora and dental complications to severe symptoms such as exophthalmus, proptosis, diplopia and visual impairment. Mucoceles causing bone destruction and showing extension to the orbita are in general frontal and ethmoid sinus related mucoceles. Mucoceles of the maxillary sinus very rarely affect the orbita wall [9]. In our patient, there was a maxillary sinus derived mucocele which eroded the orbita wall of mucocele, causing the complaint of periorbital pain and proptosis in the left eye.

Caldwell-Luc approach, inferior meatal antrostomy and lateral rhinotomy are the conventional treatment methods for the maxillary sinus mucocele. In recent years, endoscopic interventions are being applied in ethmoid and frontal mucoceles and those confined to the maxillary sinus [2,10]. However, open intervention is recommended if mucocele caused bone erosion and expanded toward the buccal soft tissue or orbita [8]. Since our patient was 16-year-old and eye symptoms showed new onset, less invasive endoscopic intervention was performed because of the risk for mucocele formation after Caldwell-Luc surgery. The symptoms were regressed at the postoperative 1st month follow-up.

Conclusion

Maxillary mucocele can cause orbital symptoms and endoscopic approach should be taken account as an alternative or first choice to open surgery in order to avoid the risk for mucocele formation.

Note: The patient consented to put his photo on this paper.

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