

Case Report

Giant Idiopathic Mucopyocele of Maxillary Sinus Presenting as Asymptomatic Unilateral Facial Swelling: A Case Report

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Abstract

Mucocele is an epithelial lined, mucous containing sac involving paranasal sinuses. It gradually increases in size and causes destruction of sinus wall. Mucopyocele is infected mucocele. Purpose of the present case is to describe a painless giant idiopathic mucopyocele of maxillary sinus presenting as asymptomatic unilateral facial swelling and role of endoscopic sinus surgery in precise removal of the disease from maxillary sinus and leaving healthy antral mucosa in situ.

Keywords: Maxillary sinus; Mucocele; Paranasal sinuses

Introduction

The term mucocele was first introduced by Rollet in 1896 meaning an expansile, epithelial lined mucous containing lesion involving paranasal sinuses which gradually increases in size and causes destruction of sinuses wall [1]. According to Caylakli F. et al, it commonly involves fronto-ethmoidal region followed by sphenoid sinus; maxillary sinus is least common with no more than 10% of all mucoceles reported in English literature [2]. Giant mucopyocele arising from nasal septum has also been described in literature [3]. True incidence of mucopyocele in general population is 0.4-0.8% [4]. Etiology of mucocele is not clear but two third cases are secondary to trauma, chronic infection, polyps and prior sinus surgery while idiopathic in one third of mucocele involving paranasal sinuses [5]. Maxillary sinus mucocele has been found as a long term complication of Caldwell-Luc operation [6]. The purpose of this case is to present giant idiopathic mucopyocele of maxillary sinus with asymptomatic facial swelling as a sole presentation and its management.

Case report

A 28 years old male patient presents with unilateral painless swelling in right cheek since one year which was progressively increasing in size (Figure 1). There was no history suggestive of

sinusitis, ocular symptoms and no history of prior trauma or sinus surgery. On examination, swelling was non tender and firm on palpation with loss of cutaneous sensation over swelling. Soft cystic swelling was palpable in right canine fossa (Figure 2). Ocular and oral cavity examination was normal. Nasal endoscopy was normal. Fine Needle Aspiration Cytology (FNAC) reveals pus on aspiration. High Resolution Computerized Tomography (HRCT) of nose and paranasal sinuses reveals partial erosion of anterior wall and posterolateral wall of right maxillary sinus with hypo and hyperdense contents in maxillary sinus (Figure 3). Coronal sections reveals erosion of infero-lateral wall of right maxillary sinus, intact superior and medial wall with blocked right osteomeatal complex (Figure 4). All other sinuses and orbits were normal. Patient was subjected for endoscopic middle meatal antrostomy under transoral pterigopalatine block and topical 4% lignocaine with adrenaline 1:2000. Endoscopic uncinectomy and Middle Meatal Antrostomy (MMA) performed with 0 degree rigid nasal endoscope. After wide MMA, pearly white cyst wall become visible. Cystic wall incised with sickle knife and 20-25cc mucopurulent discharge aspirated. Part of cyst wall removed with preservation of normal mucosal lining of antrum and saline irrigation of antrum performed till clear saline came. Fucidic acidic ointment installed in to the middle meatus and nasal cavity. Post operatively, patient was put on regular saline irrigation apart from oral antibiotics and antihistaminics. At 10 weeks post surgery, nasal endoscopy revealed well epithelialised maxillary antrum and wide MMA with

significant reduction in size of facial swelling. At 5 months post surgery, patient face was free of swelling.



Figure 1: painless right cheek swelling.



Figure 2: Swelling in right canine fossa.

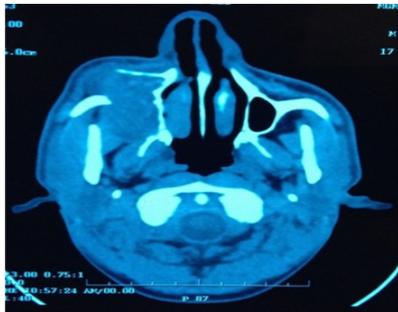


Figure 3: HRCT nose and paranasal sinuses (axial section) imaging reveals partial erosion of anterior wall, posterolateral wall of right maxillary sinus with hypo and hyperdense contents in maxillary sinus.

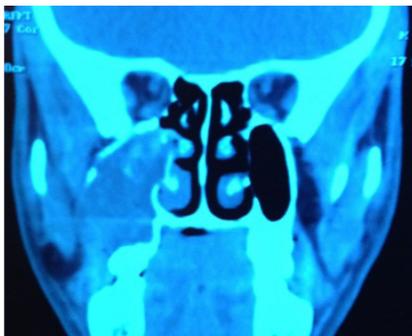


Figure 4: HRCT nose and paranasal sinuses (coronal section) reveals erosion of infero-lateral wall of right maxillary sinus, intact superior and medial wall with blocked right osteomeatal complex.

Discussion

Mucocele of maxillary sinus is mucoid filled mass occurring secondary to obstruction of natural ostia or disturbed natural drainage of maxillary sinus. Following the obstruction of sinus ostium, there is accumulation of mucous in epithelial lined sac which subsequently enlarges and produces pressure changes in the sinus walls. Due to increased pressure in sac secondary to continuous mucous production and superadded infection, erosion and remodeling of the walls of sinus takes place. Increased production of prostaglandins PGE2 by mucocele tissues has been thought responsible for destruction of tissue and expansion of bones. These events lead to focal areas of bone reabsorption and bone formation in bones surrounding mucopyocele. Also under the effect of high pressure, mucocele expands outwards thus preserving the sinus mucosa [7].

Small mucoceles are usually asymptomatic or may simulate signs and symptoms of maxillary sinusitis. Mucocele of maxillary sinus is generally confined to maxillary sinus. Large mucoceles may present as mass in cheek or hard palate, loosening of teeth. Erosion of orbital floor may present as signs and symptoms of orbital cellulitis or abscess, cheek paraesthesia due to infra orbital nerve injury.

CT scan both coronal and axial sections, is the imaging modality of choice [8]. Majority of mucoceles presents as non enhancing, homogenous, isodense with typical rounded bony outlines with no contrast enhancement on CT. There may be osteolysis and or along with thickening of bony walls. In chronic cases, because of higher protein contents, attenuation value may be more (20-40HU).

Differential diagnosis of cheek swellings are odontogenic cysts, fibro osseous lesions (fibrous dysplasia and ossifying fibroma), allergic fungal sinusitis, maxillary mucocele and neoplastic lesions [9].

Endoscopic sinus surgery is the treatment of choice for mucocele of maxillary sinus. Endoscopic MMA establishes better drainage, ventilation and restitution of sinus mucosa with marsupialization of mucocele. Endoscopic technique is minimally invasive, less traumatic to surrounding normal structures and histological evidence of transformation of mucocele lined epithelium into functional ciliated columnar epithelium [8]. Inferior antrostomy may be effective for post operative follow-up and rapid resolution of symptoms by improving physiological mucociliary clearance through natural ostium however inferior antrostomy get closed subsequently. Anterior antrostomy may be needed for addressing facial soft tissues involvement, mucoceles resulting from facial trauma or previous surgery [10].

Conclusion

Giant mucopyocele of maxillary sinus with extensive de-

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struction of anterior and posterolateral wall of maxillary sinus may be asymptomatic except facial swelling however fungal sinusitis and neoplastic lesion should be kept in differential diagnosis.

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References

1. Evans C (1981) Aetiology and treatment of fronto-ethmoidal mucocele. *J Laryngol Otol* 95: 361-375.
2. Caylakli F, Yavuz H, Cagici AC, Ozluoglu LN (2006) Endoscopic sinus surgery for maxillary sinus mucoceles. *Head Face Med* 2: 29.
3. Taskin U, Korkut YA, Aydin S, Oktay FM (2012) Atypical presentation of primary giant nasal septal mucopyocele. *J Craniofac Surg* 23: 5-7.
4. Kshar, A Patil, H Umarji, S Kadam (2014) Mucopyocele of maxillary sinus. *Dent Res J* 11: 119-123.
5. Lund VJ (1987) Anatomical considerations in the aetiology of fronto-ethmoidal mucoceles. *Rhinology* 25: 83-88.
6. Busaba NY and Kieff D (2002) Endoscopic sinus surgery for inflammatory maxillary sinus disease. *Laryngoscope* 112: 1378-1383.
7. Pinto JA, Cintra PP, Marqui AC, Perfeito DJ, Ferreira RD, et al. (2005) Middle turbinate mucopyocele: A case report. *Rev Bras Otorrinolaringol* 71: 378-381.
8. Lloyd G, Lund VJ, Savy L (2000) Howard D Optimum imaging for mucoceles. *J Laryngol Otol* 114: 233-236.
9. Patel H and Lall A (2010) Unilateral Maxillary Swelling: A Retrospective Study. *Indian J Otolaryngol Head Neck Surg* 62: 403-407.
10. Har-El G (2001) Endoscopic management of 108 sinus mucoceles. *Laryngoscope* 111: 2131-2134.