

# Case report

## Post - Operative Antral Pseudocyst

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### Keywords

pseudocyst, maxillary sinus, recurrence, cyst excision, marsupialization

### Case report

A 42 years old male presented to our hospital with complaints of abnormal protrusion of right eye since 6 months following maxillary sinus cyst excision 6 years ago (Figure 1) associated with decreased vision. He also complained of bilateral nasal blockage, bilateral facial heaviness, and burning sensation below the right eye at the maxillary region while eating food. There was a history of blood stained discharge through the previously operated site above the gums in the oral cavity. There was no history of epistaxis, anosmia, hyposmia or headache.



Figure 1

Computed Tomography Paranasal Sinus revealed a 3 x 2.4 cm sized well defined cystic lesion at the inferior aspect of the right orbit in the bed of right maxillary sinus indenting the lateral wall of the right ethmoid sinus and nasal cavity, causing erosion of the inferior ethmoidal wall and protruding in to the nasal cavity (Figure 3) and also indenting the inferior aspect of the

right orbit and infero-laterally upto the buccal mucosa, suggestive of recurrent benign cystic lesion. Multiple air foci were seen extending between the right nasal cavity/ maxillary sinus and the right oral cavity with non-visualisation of right upper 1st and 2nd molar, right middle and inferior turbinates, with a defect in the right half of maxillary bone and hard palate, suggestive of the post operative status. No oro-antral fistula was seen

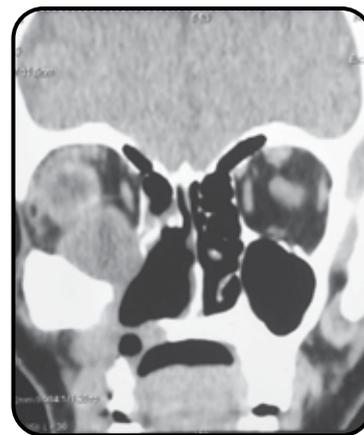


Figure 3

Diagnostic nasal endoscopy of right nostril displayed a distorted anatomy and the only landmark visible was a part of middle turbinate. Based on diagnostic endoscopy along with clinical correlation, a final diagnosis of antral pseudocyst was made and right maxillary cyst marsupialisation was planned. A right maxillary cyst marsupialisation was performed at which point maxillary ostium was enlarged and the cystic lesion was opened and decompressed as much as possible maintaining the contour and content of the eyeball (Figure 5) The patient had an incident free hospital stay and is now being followed up on a regular basis.



Figure 5

## Discussion

A cystic lesion in the maxillary sinus is generally supposed to be a pseudocyst, but epithelium-lined cysts like mucocoeles, odontogenic cysts, simple bone cysts, can also be seen in this region. Antral pseudocysts are inflammatory in origin caused by accumulation of exudates that raise the mucosa from the bone of the antral floor<sup>(1)</sup>. Some large antral cysts extrude through the nasal ostium to form an Antral pseudocysts<sup>(5)</sup>. Men are affected equally or somewhat more often than women, and the highest incidence occurs in the fourth to sixth decades of life. Nasal endoscopy and Computed Tomography are the gold standard in diagnosis of Antral pseudocysts<sup>(2)</sup>. Radiographically, it presents as a unilocular or multilocular well-defined radiolucency, surrounded by a zone of sclerosis. Surgery is the only feasible treatment in case of any suspected complications<sup>(2)</sup>. Enucleation or marsupialization of the cyst is usually done<sup>(3)</sup>. Large cysts with associated nasal polyps are best removed through a caldwell-luc approach<sup>(5)</sup>, since it offers good exposure and ensures complete removal of the polyp and the associated antral mucosa<sup>(6)</sup>.

The possible mechanism suggested by Kubo (1927 and 1933) is the entrapment of the sinus and/or nasal mucosa in the wound during closure. During the healing process, the sinonasal epithelium proliferates and creates ciliated cyst. Few reports are available concerning the outcome

of treated pseudo maxillary cysts. A recurrence rate of 20% for secondary mucocoeles including pseudomaxillary cysts is been noted<sup>(7)</sup>.

Odontogenic cysts can expand to the maxillary sinuses but they are lined by stratified squamous epithelium and contain keratinous material<sup>(8,9)</sup> thus can be differentiated from pseudo maxillary cysts.

Here, we reported a pseudo maxillary cyst occurring 6 years after a maxillary sinus surgery. The proliferation of the entrapped sinonasal mucosa in the defective area may form such a cyst during the healing phase. We believe this case exhibits another example of this possible mechanism.

## Conclusion

Pseudocysts of the maxillary antrum are not destructive and usually remain static. But in a previously operated case due to loss of bony landmarks there is a chance of pressure on important structures surrounding the maxillary antrum and orbit. Therefore, a surgical intervention is indicated to avoid complications related to surrounding structures and to avoid cicatrization or stenosis of the sinus. Maxillary cyst marsupialization was the best treatment of choice in our case.

## Reference

1. Shear M, Speight P. Cysts of the oral and maxillofacial regions. 4th ed. Oxford : Blackwell Munksgaard; 2007. P. 164
2. Frosini p, picarella G, De Campora E. Antrochoanal polyp: Analysis of 200 cases. *Acta Otorhinolaryngology ital.* 2009; 29:21-6
3. Y. yoshikawa, T Nakajima, S. Kaneshiro, and M. Sakaguchi, "Effective treatment of the postoperative maxillary cyst by marsupilization", *journal of oral and maxillofacial surgery*, vol. 40, no. 8, pp. 487-491,
4. Hong SK, Min YG, Kim CN, Byun SW. endoscopic removal of the antral portion of antrochoanal polyp by powered instrumentation. *Laryngoscope* 2001; 111:1774-8
5. Seward G, Kay L, Killey H, Harris M, McGowan D. an outline of oral surgery. 2nd revision. London:oxford-wright; P 142-3
6. Schramm VL Jr, Effron MZ. Nasal polyps in children. *Laryngoscope* 1980;90: 1488-95
7. K.C Lee and N. H. Lee, "comparison of clinical characteristics between primary and secondary paranasalmucoceles," *yonsei medical journal*, vol. 51, no. 5, pp 735-739,2010.
  - 1.) U Ertas, S. Tozoglu, and B. Aktan, "odontogenic cysts expanding to the maxillary sinus: a retrospective study," *turkiyeklinikleri journal of medical sciences*, vol 29, no. 4, p. 8450, 2009.
  - 2.) D. Dolanmaz and N. Tuncer, "odontogenic cyst involving maxillary sinus : report of five cases," *turkiyeklinikleri journal of dental sciences*, vol. 4, no. 3, pp. 130-134,.