Unusual Foreign Body In The Maxillary Antrum:A Case Report

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Citation

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Abstract

Foreign bodies in the maxillary sinus are not unusual findings. Many cases have been reported so far with foreign bodies like tooth, dental amalgam, chopstick, matchstick, gutta-percha point, pellets, and even bullet. This paper reports a unique presentation of a patient with regurgitation of fluids in nose and an oro antral fistula; which was later found out to be ribbon gauze as foreign body in the maxillary antrum and was retrieved by Caldwell-luc approach.

INTRODUCTION

Foreign bodies in the maxillary antrum are not a rare entity, with most of them being iatrogenic in nature and most commonly follow dental procedures. Foreign body in the maxillary antrum may present as an acute phenomenon or may remain silent for years. Some patients present with swelling in the cheek, nasal discharge, nasal regurgitation due to oro-antral fistula etc., to name a few. Computerized tomographic scan aids in diagnosis and should be done in all suspected cases apart from routine radiographic investigations. Some of them masquerade as a neoplastic lesion even. Retrieval of the foreign body is done by either caldwel-luc method or minimally invasive endoscopic assisted surgery, both having their own merits and demerits.

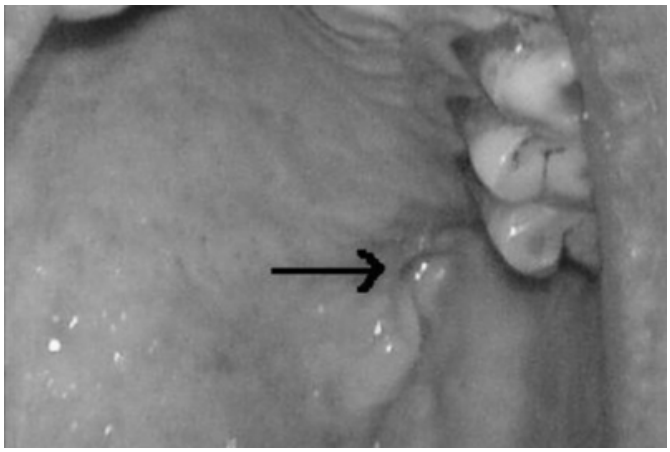
CASE REPORT

A 65 year old male patient came to the out-patient department of ENT with chief complaints of regurgitation of fluids into the nose and a hole in the palate at the site of previous tooth extraction, for 7 months duration. He had no change in voice and had no cough, no dysphagia. He had no other significant medical or surgical history. Detailed cranial nerve examination was insignificant.

On examination the patient had draining oro-antral fistula in the left upper molar region (fig.1).

Figure 1

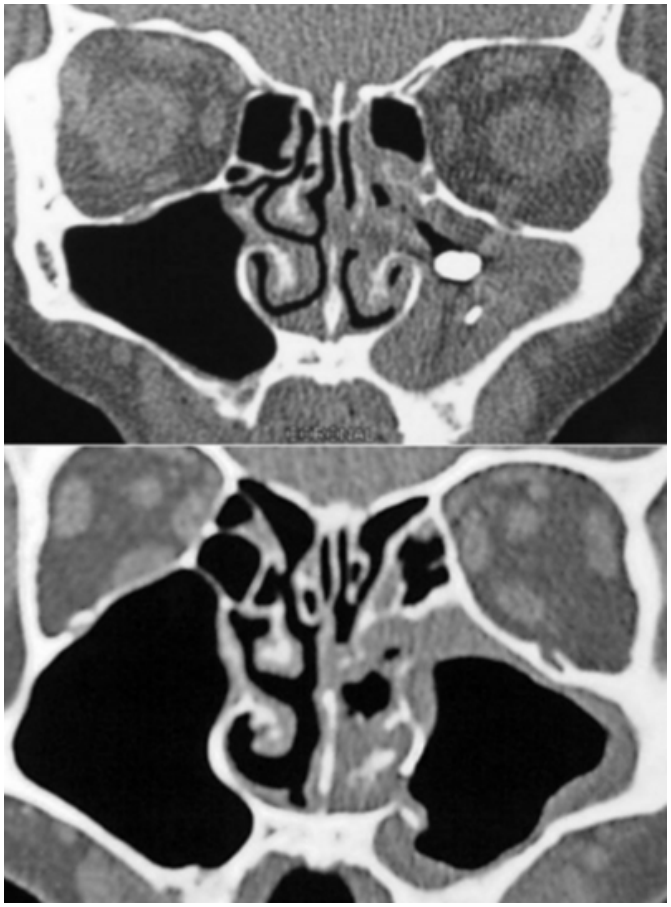
Fig.1. photograph of the palate of the patient showing a oro-antral fistula near the alveolus of left upper molar tooth.



Rest of the oral and anterior rhinoscopic examination was insignificant. He had no obvious cheek swelling or fistula. There was positive left maxillary sinus tenderness. A routine paranasal sinus radiogram revealed heterogeneous opacification of the left maxillary sinus with intact bony boundaries. So, a tomographic scan of the paranasal sinuses was done (fig.2). This revealed a hyper dense lesion in the left maxillary sinus with a central calcification spot.

Figure 2

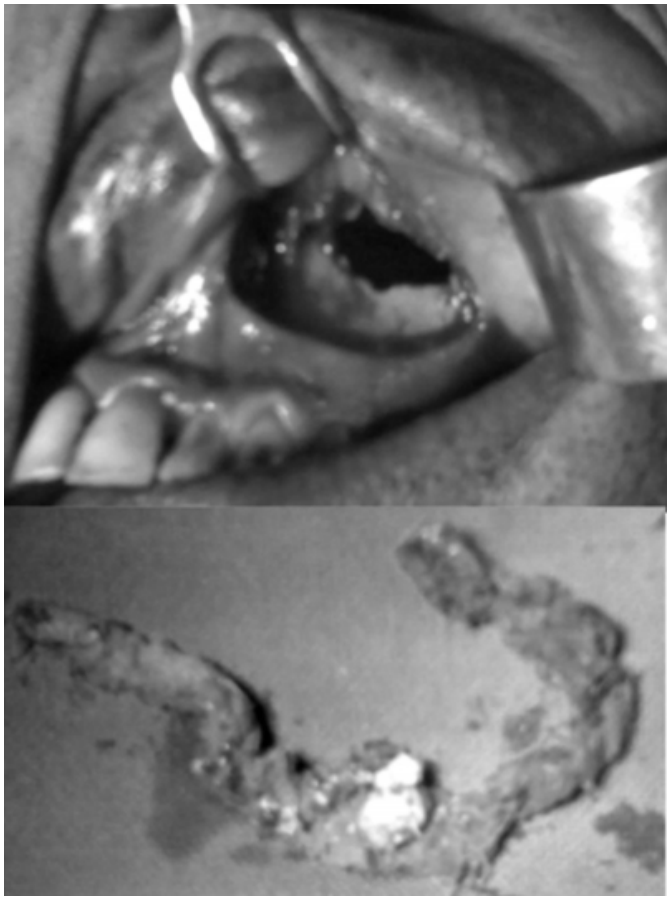
Fig 2. Above, a hyperdense lesion in the left maxillary antrum with a calcified spot in its centre. Below, post-operative tomographic scan of the same patient showing maxillary sinus free off the foreign body.



A provisional diagnosis of malignancy was made and planned for antroscopy. Later on by Caldwell-luc surgery, a cotton gauze piece with a calcification nidus was identified and extracted by the same opening which was 1.25 cm approx. in diameter. (Fig 3)

Figure 3

Fig 3. Above, per-operative photograph showing bone window created via Caldwell-luc approach. Below, photograph showing the ribbon gauze(foreign body) with calcified mass in its centre.



Post-operatively the patient had mild cheek edema which subsided with routine antibiotic, anti-inflammatory treatment. Patient was given nasal decongestants post-operatively to facilitate antral drainage and minimize irritation to the skin flap by the antral secretions. Post-operative tomographic scan showed complete clearance of the maxillary antrum. As the patient hailed from a remote village in Bihar, he didn't turn for follow-up. Hence the status of oro antral fistula remains unknown.

DISCUSSION

Foreign bodies in the maxillary antra are not uncommon. There are many instances where tooth, dental amalgam, chopstick, matchstick, gutta-percha point, pellets, knife and even bullets have been discovered. Some foreign bodies like a cigarette pipe stem that remained unnoticed for 10 years [1] and a knife that remained silent for 1 year have been reported [2]. Some of them like the one that resulted from a blast in a furnace, with a metallic foreign body in the

maxillary sinus had presented in the emergency. Unusual foreign bodies like a bunch of hair, following a gunshot injury was also reported in literature [3].

Patients may present with pain in the involved sinus, headache, nasal stuffiness, purulent nasal discharge, cheek swelling with or without draining cheek fistula [3], facial neuralgia [4] and as in this case, with an oro-antral fistula. A foreign body may appear to be in different positions inside the sinus also. For example, a tooth lodged inside will change its position in the maxillary sinus with change in patients head position unless it is trapped in between the sinus wall and its mucosa. Foreign bodies initiate inflammation in the antrum involved and can be a nidus for calcification too.

Oro antral fistula is formed in cases of foreign body in the sinus due to rupture of the floor of the sinus sequel to inflammation or iatrogenic. The patient complains regurgitation of foods via nose while eating. Purulent nasal discharge occurs due to bacterial sinusitis.

It is possible that the foreign body in the maxillary antrum lying near the natural ostium created an antral inflammation of the overlying mucosa and a disturbance in the clearance of the maxillary sinus. This fact with the concomitant hypertrophy of the inferior turbinates may explain the patient's symptoms of maxillary sinusitis including tenderness in the left infraorbital region and nasal stuffiness.

A routine radiographic investigation points to the diagnosis. When there is no distinction evident in a tomographic scan, an antroscopy is performed to confirm the diagnosis. Some patients might also give history of dental procedures which adds up further to the diagnosis.

Foreign bodies are removed by either an open caldwel-luc approach or through a minimally invasive endoscopically assisted access to the maxillary antrum. The Caldwell-Luc approach was the gold standard for access to the maxillary sinus for treatment of various problems, including retrieval of foreign bodies, until the development of endoscopic sinus surgery . Both techniques have limitations and potential complications. Larger foreign bodies require the former approach.

A minimally invasive approach to retrieval of a foreign body from the maxillary antrum has numerous short-term and long-term benefits. In the immediate perioperative period the reduced exposure of the lateral maxilla required to facilitate this approach decreased swelling, pain and bleeding. Over the long term, the resulting bony defect of the lateral antral wall will be smaller than with other methods, and there will be less expression of antral inflammation in the overlying soft tissues. Perhaps most important, this approach clearly decreases the inherent risk of damage to adjacent vital structures, particularly when retrieving a large, sharp foreign body from the maxillary antrum [5].

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