CLINICAL CASE

FOREIGN BODY IN MAXILLARY SINUS WITH SKIN FISTULA

Daniela Vrînceanu¹, M. Dumitru^{1,3}, B. Banica¹, Adriana Nica^{2,3}¹ENT Department, Bucharest University Emergency Hospital, Bucharest, Romania²Anesthesia and ICU Department, Bucharest University Emergency Hospital, Bucharest, Romania³Carol Davila University of Medicine and Pharmacy, Bucharest, Romania

Corresponding author: Dumitru Mihai

Phone no. 0040721752318

Email: orldumitrumihai@yahoo.com

Abstract

We present the case of a 41 years old patient with poor social status and previous facial trauma with a sharp object (wood branch) 2 years ago. Although it was performed the extraction of the branch in a local ENT department, the patient developed a fistula in the left genian region with presence of puss. Two months ago, the patient undergoes another head trauma leading to neurosurgery. CT scan raises the suspicion of a foreign body in the left maxillary sinus. We performed left maxillary sinus surgery through Caldwell-Luc approach with extraction of the foreign body and closure of the fistula. Surgical healing was optimal within 10 days. We analyze the medico-legal implications of such cases.

Keywords: foreign body, wood, sinus, surgery**Introduction**

Foreign bodies in nasal sinuses in adult patients are rare and usually represented by teeth and dental implants and needles [1]. The presence of such foreign bodies initiates an inflammatory reaction leading towards sinusitis [2]. Symptoms are on one side only with nasal obstruction, puss and headache [3]. Subsequently the patient may develop orbital or cerebral complications and even sepsis. The diagnosis is based on clinical findings, endoscopy and CT scan. Plain sinus X-ray may raise the suspicion on admittance [4]. Differential diagnosis must include dental sinusitis, fungus and tumors with associated infections. Surgical treatment is compulsory. Endoscopic approach is usually inefficient leading to conversion to classic external approach. The evolution is positive after foreign body extraction [5].

Case presentation

We encountered a male patient aged 41 coming from rural area and previous history of facial trauma with a sharp wood branch 2 years ago. Although at that moment the branch appeared to be successfully extracted in the local ENT department the patient developed a fistula in the left cheek with intermittent puss discharge. Two months prior to admittance in our ENT Department the patient unfortunately suffers another head trauma requiring neurosurgery. CT scan reveals the presence of a foreign body in the left maxillary sinus.

On admission, the patient has a good general status without fever and with a burrowed scar with fistula opening in the left genian region. Nasal endoscopy shows nasal septum deviation and granulation in the middle nasal meatus (Figure 1). The patient also lost all the teeth at the level of the maxillary.

Figure 1 – Skin fistula in the left genian region and endoscopic aspect of granulation in middle nasal meatus

Second CT scan underlines the presence of the foreign body and associated fungus ball sinusitis (Figure 2).

Figure 2 – CT scan with left maxillary sinusitis with fungus ball and the trajectory of the foreign body

Figure 3 – Surgical approach

We performed surgery under general anesthesia through radical maxillary sinus approach by Caldwell-Luc approach with extraction of foreign body – wood – and resection of the fistula to the skin, Figure 3. The foreign body reached the junction between the maxillary sinus and ethmoid labyrinth neighboring orbital floor and skull base. Sinus mucosa developed polyps and micro abscess. Bacteriology exam of the sinus secretion

revealed *Pseudomonas Aeruginosa*. The wood piece measured 4.3/2.8 cm (Figure 4).

Figure 4 – Foreign body (wood piece) found in the left maxillary sinus

After surgery, the treatment associated 3rd generation antibiotics. Healing was complete within 10 days (Figure 5).

Figure 5 – Healing aspect

Discussions

Our case presents some specific aspects. Firstly, the nature of the foreign body being a large piece of wood. This foreign body was very old with 2 years without major complications. The fistula acted like a faucet enabling the intermittent elimination of puss. The mucosa developed micro abscesses with *Pseudomonas Aeruginosa*. The foreign body made contact with the junction between the maxillary sinus and ethmoid without damaging the orbital floor or the skull base. Our patient had the advantage of a young age and lack of associated pathology. CT scan revealed the association of fungus sinusitis.

The presence of the skin fistula implied the use of an external classic surgical approach.

Conclusion

Foreign bodies in the maxillary sinus are rare in adult cases but should also be suspected in cases with unilateral sinusitis symptoms without dental etiology. Prior history of cranial trauma is frequent. Endoscopy exam and CT scan are important for surgical planning. Surgical treatment targets the extraction of the foreign body and eliminating secondary mucosa lesions in the sinus.

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