

A Sebaceous Cyst Located in the Maxillary Sinus

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Abstract

Maxillary sinus cysts are quite common, being most frequently detected on the occasion of radiological investigations. On an OPG (orthopantomogram), these cysts appear as round masses, similar to a dome, in contact with one of the walls or the floor of the maxillary sinus. In this study, authors present the case of a patient with a maxillary cyst involving the maxillary sinus. Removal of the maxillary cyst was performed with the extraction of the causative tooth. Complete removal of the sebaceous cyst is mandatory in order to avoid recurrences and potential infectious complications.

Keywords: sebaceous cyst; bone defect; maxillary sinus; CBCT.

1. Introduction

The maxillary sinuses are the site of many diseases, whose etiology varies from congenital malformations and neoplasms to local inflammation, iatrogenic disorders and injuries [1]. Maxillary sinus cysts are quite common, being most frequently detected on the occasion of radiological investigations. They are usually retention cysts, of uncertain etiology; allergies, barotraumas, odontogenic infections, sinusitis and rhinitis can be involved [2,3].

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Some authors maintain that these cysts represent an inflammatory exudate located in the submucosal connective tissue [4], while others show that they result from the obstruction of the excretory canals of the glands of the Schneiderian membrane [5]. Consequently, retention cysts have an epithelial membrane and a fluid or mucus content [6], and affect mucociliary clearance [7,8]. On an OPG (orthopantomogram), these cysts appear as round masses, similar to a dome, in contact with one of the walls or the floor of the maxillary sinus [9,10]. In most of the cases, sinus cysts are asymptomatic [6-13], but they can be associated with headache, a sensation of local pressure, nasal obstruction and secretion, asthenia and fever [9,12]. Sebaceous glands are exocrine glands distributed in the skin, which have a lobular architecture. At the periphery, they have a layer of germ cells, and in the center, they have multivacuolated cells – sebocytes. These eliminate their content (sebum) into an excretory duct, which opens into a hair follicle [13,14]. Through the blocking of the excretory canal of a sebaceous gland, the excretion of sebum is prevented, and its accumulation leads to the formation of a sebaceous cyst [15]. These cysts are frequently found and may develop all over the body, but they are predominant on the face and neck [16-19], and particularly in the presence of acne. They are rare during puberty, while they are more common in adults and especially in elderly persons [15]. Clinically, they occur in the form of a subcutaneous nodule of firm or fluctuating consistency, covered by normal color or slightly hyperemic skin, where there is a point corresponding to the pore of the hair follicle where the cyst originates. This point represents an important diagnostic criterion [20,21]. Through the translucent skin, the white-yellowish cyst can be sometimes seen. On palpation, the nodule is painless and mobile on the underlying planes. If superinfected, it may become painful and fixed to the adjacent tissues through the fibrosis induced by repeated acute episodes [15]. The following case presents a sebaceous cyst removed from the maxillary sinus, this location being unusual for this pathology.

2. Case report

Patient AB, a middle-aged male adult, presented to an urban dental office for prosthetic rehabilitation of the upper jaw. Several years before (the patient could not mention the exact date), tooth 2.5 was extracted, which left a lateral edentulous space on hemiarch 2. The patient had no known allergies, no associated diseases and was neither a smoker nor an alcohol or other substance user. He worked in a clean environment (office) and had no family history. Clinical examination showed a mucosa of normal color and appearance, and in tooth 2.6, gingival recession around the palatal root, this tooth being restored with an adequate metal-ceramic crown. Several treatment options were proposed to the patient and implant-prosthetic rehabilitation was decided, which is why CBCT (cone beam computed tomography) in a local radiology center was indicated. Following visualization of the images, the presence of a slightly radiolucent mass about 20/14/11 mm in size was observed in the left maxillary sinus (**Figure 1** and **Figure 2**).

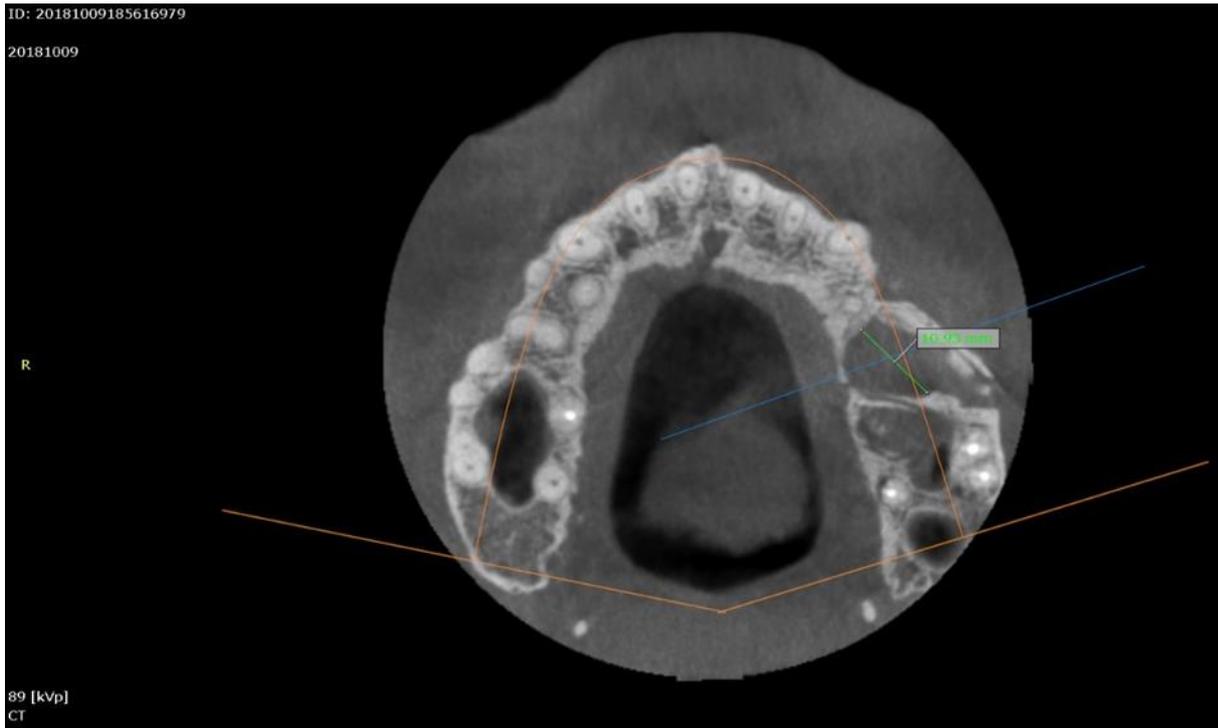


Figure 1: The sinus lesion on the CBCT image, in axial view

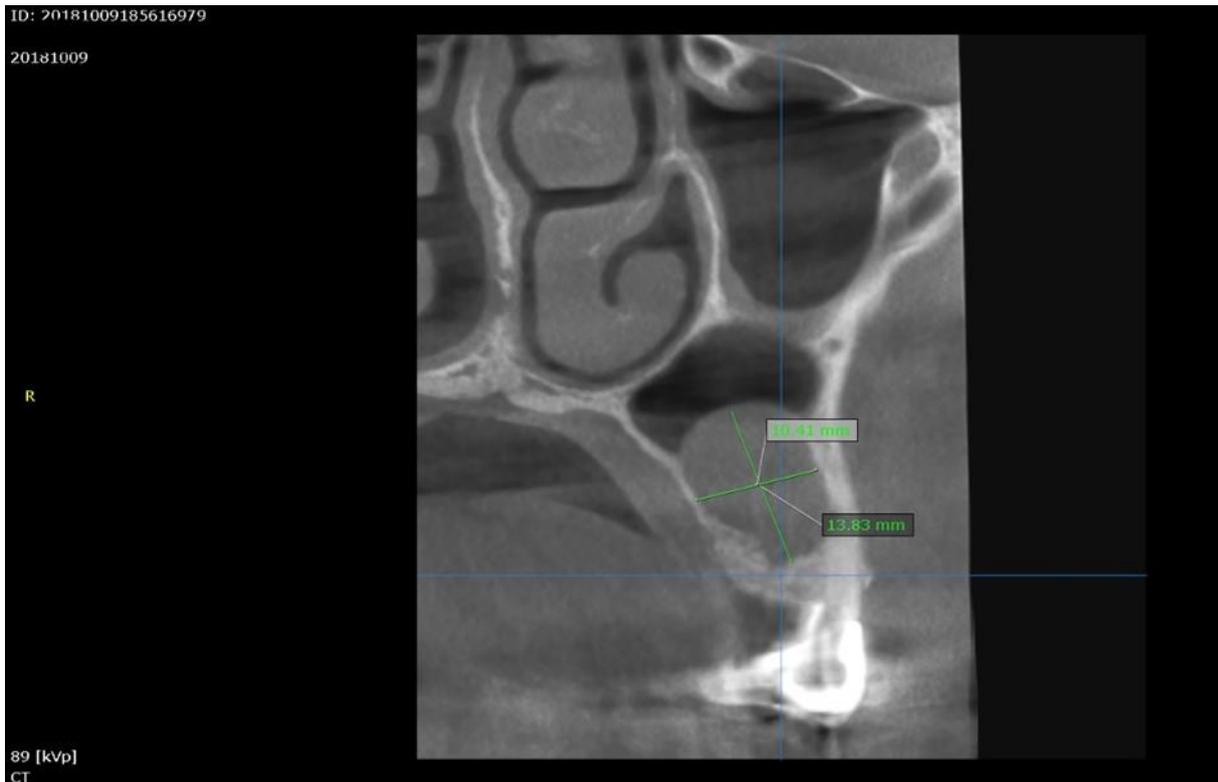


Figure 2: The sinus lesion on the CBCT image, in front view

In a first stage, extraction of 2.6 (which could no longer be used for prosthetic purposes) and removal of the sinus cyst were decided, which were to be followed by the subsequent interventions required for implant-

prosthetic rehabilitation. Surgery was carried out under locoregional anesthesia (Ubistesin Forte), and syndesmotomy, luxation and extraction of 2.6 were performed. A trapezoidal flap in 1.5-1.6 was used, the mucoperiosteum was detached and the vestibular cortical bone (the anterolateral wall of the left maxillary sinus) was exposed. With a bone drill, a window in the lateral wall of the left maxillary sinus was made, the sinus was accessed, and using a curette, the sinus cyst along with the adjacent sinus mucosa was removed. The removed sample was sent for histopathological examination. The flap was sutured in the initial position with resorbable 4.0 sutures. The patient was prescribed antibiotic medication (Augmentin 1 g p.o. every 12 hours, for 5 days) and analgesic drugs when needed (Algoalmin 500 mg p.o.). Postoperative evolution was favorable, the only complaints of the patient being related to postoperative edema and mild pain in the first 24 hours. The patient presented at one postoperative week for follow-up and removal of the sutures. The result of the histopathological examination, received at 2 postoperative weeks, was sebaceous cyst. Healing was without complications. About two months after the intervention, the patient had a follow-up CBCT scan, which showed the absence of the lesion and a normal maxillary sinus (**Figure 3, 4, 5**).

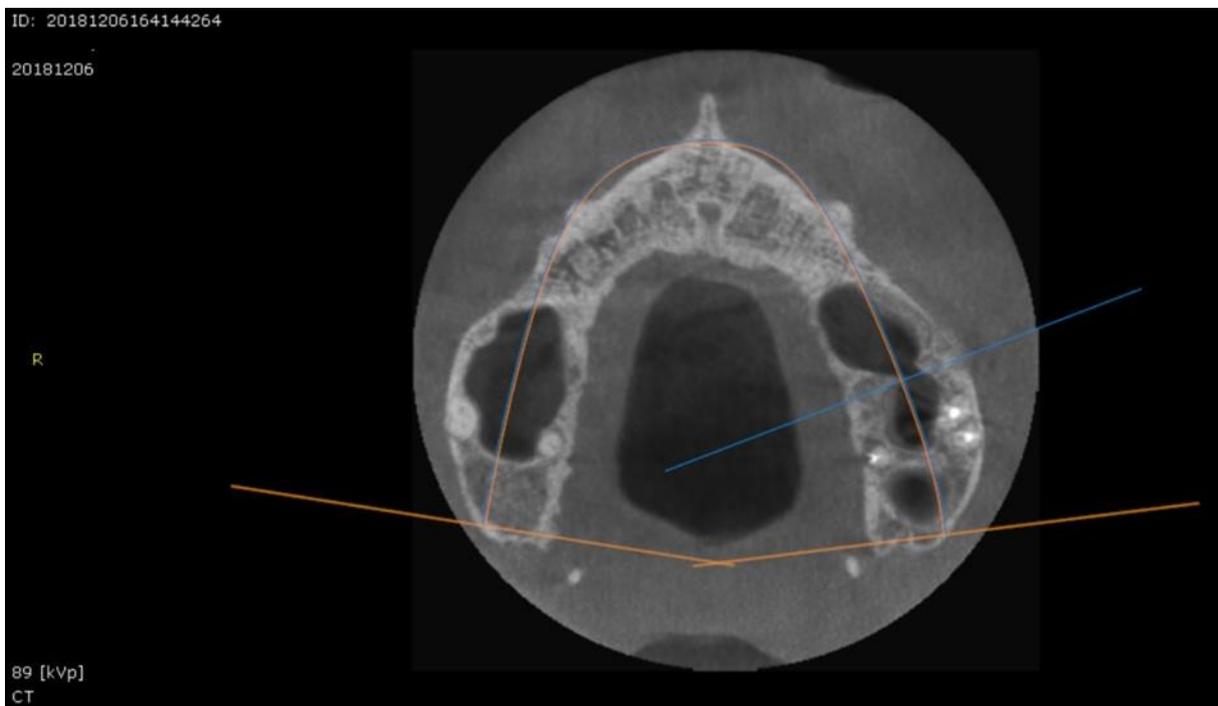


Figure 3: CBCT image, in axial view, after surgery

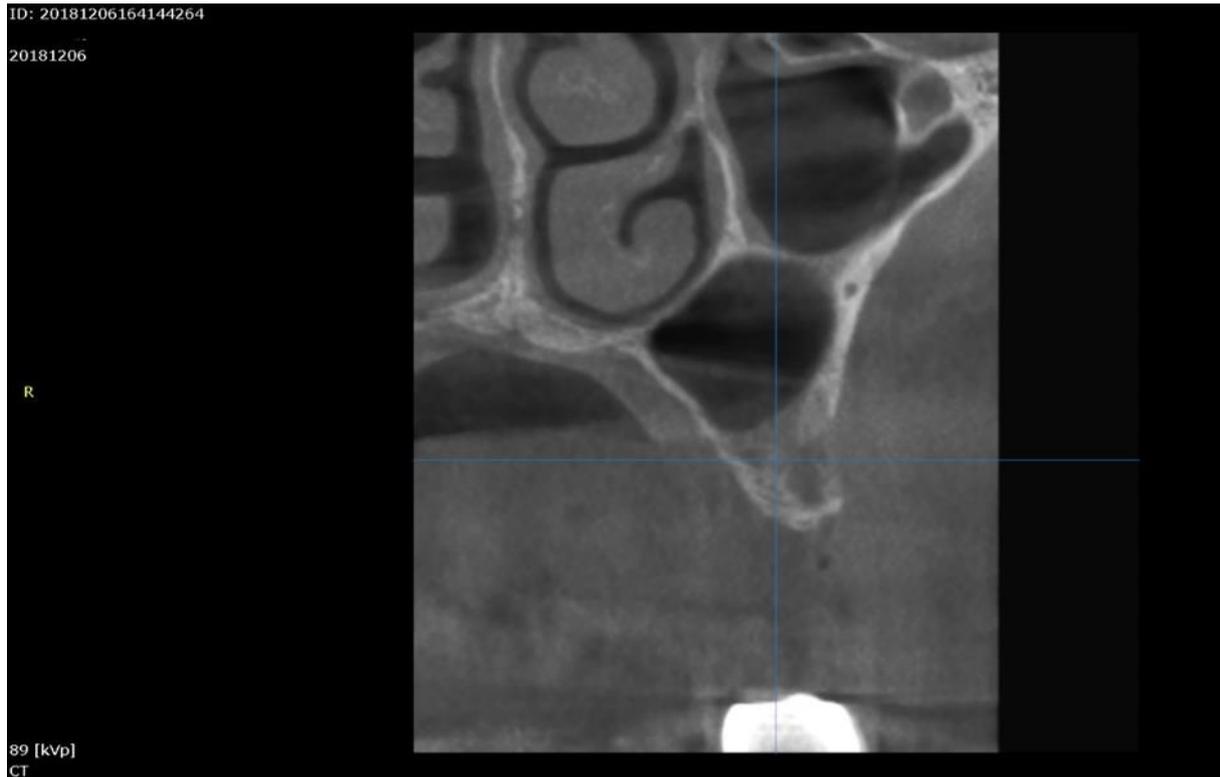


Figure 4: CBCT image, in front view, after surgery

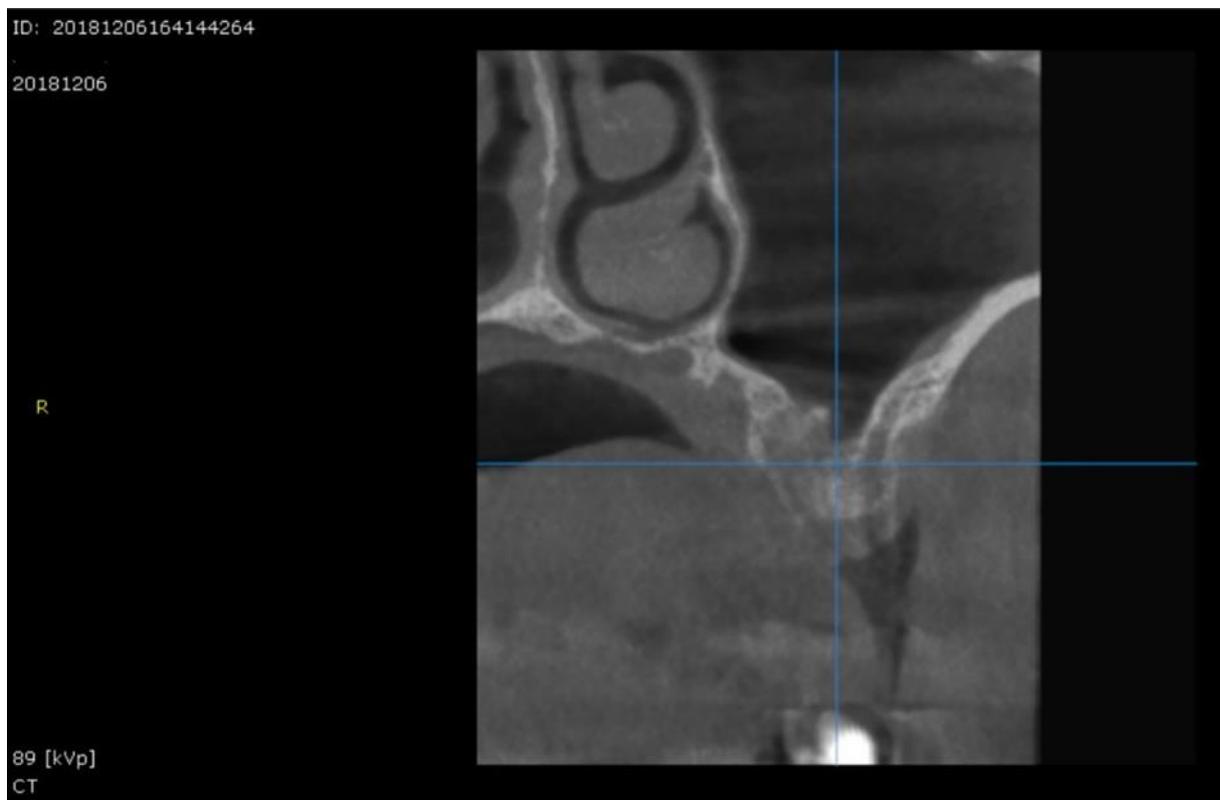


Figure 5: CBCT image, in front view, after surgery

3. Discussion

The presence of cystic masses in the maxillary sinuses is important in dental medicine, especially in the case of implant treatment [22], making sinus lift difficult in this case. Diagnosis is made based on imaging examinations: paranasal sinus X-ray, OPG (orthopantomogram), MRI (magnetic resonance imaging), CT (computed tomography) or CBCT (cone beam computed tomography). Our patient showed no symptoms; consequently, the diagnosis of sinus cyst was made based on imaging examination. The results of the study conducted by Moon and his colleagues [23] indicate a 7% prevalence of sinus cysts in the general population, which are mainly found in the third decade of life [9,10]. A number of studies have monitored the evolution of maxillary sinus cysts, showing that over time, about half of them maintain their initial size, 20% disappear, 20% increase in size and only 12.5% diminish [9,24]. It seems that surgical restoration of normal drainage and good ventilation favors the reduction in the size of cysts [5]. The symptoms induced by sinus cysts, as well as their optimal treatment are very controversial issues [7,9]. The majority of the sinus cysts are asymptomatic and do not necessarily require treatment [5,9,25], but sometimes painful rhino-sinusal symptoms can be associated [6,9]. Conventional surgical treatment of symptomatic sinus cysts consists of their removal using the radical Caldwell-Luc approach [26], but the current treatment of choice is endoscopic removal [2,7]. Given that the radiological investigations performed suggested that 2.6 could be the causal factor of the cyst and that following removal of the crown covering this tooth it was found that its correct prosthetic restoration was no longer possible, its extraction was decided. We preferred to remove the cyst by oral route, at the time of extraction. In the case of sebaceous cysts, surgical excision is the only treatment approach, aimed at completely removing the cyst in order to eliminate recurrences [15,27]. Sebaceous cysts may become superinfected, with the appearance of a suppurative collection. In this case, incision and drainage of the collection will be performed, and cyst removal should be delayed until acute symptoms remit and the cyst recurs. Antibiotic treatment must be administered considering the staphylococcal etiology [15]. The antibiotic administered to the patient was prescribed empirically, given that histopathological diagnosis was unknown, but its location was taken into account. Depending on the pathomorphological changes in the Schneiderian membrane, all differential diagnoses should be excluded before any intervention on the maxillary sinus or the surrounding bone [28]. In the current case, the imaging appearance of the lesion, the absence of any symptoms, as well as the presence of 2.6 in its close proximity, helped us to exclude most of the differential diagnoses. Sinus cysts must be differentiated from other opaque sinus lesions, such as foreign bodies, inverted papilloma, mucocele, polyps in chronic rhinosinusitis or mycotic rhinosinusitis (mycetoma) [29,30], so that correct treatment can be initiated. Although the majority of the studies conclude that no surgical treatment of sinus cysts is required [5,9,25] unless symptoms are present [26], in everyday practice these are removed, which is justified by the fact that they can increase in size and cause various complications. Even though the patient had no complaints, in our case cyst removal was decided because of its interference with bone augmentation required for subsequent implant treatment. Discussions are more limited, because the incidence of this type of cyst is small. A limitation of the current study is the fact that there is only one patient.

4. Conclusion

Particular attention should be paid to the presence of any cystic mass located in the maxillary sinuses, and no

diagnosis should be excluded. Histopathological examination is required for diagnosis and initiation of correct treatment. Complete removal of the sebaceous cyst is mandatory in order to avoid recurrences and potential infectious complications. The patient signed an informed consent by which he agreed to undergo the proposed surgical treatment.

5. Recommendations

We recommend not to neglect the cystic structures at this level and practitioners should consider a wide variety of diagnoses.

6. Disclosure

The author reports no conflicts of interest in this work

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