

Antrolith in the Maxillary Sinus; Report of a Case

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Abstract:

A case of maxillary antrolith in a 14-year-old girl is presented. A radiopaque mass, thought to be a supernumerary tooth, was incidentally found on a panoramic radiograph obtained for orthodontic purposes. During surgical exploration the maxillary sinus was penetrated and 6 calcified masses were discovered. Histopathologic analysis revealed a calcium deposition around a necrotic mass.

Key Words: Anthrolithiasis; Maxillary sinus; Supernumerary tooth

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INTRODUCTION

Antroliths are calcified masses that occur in the maxillary sinus. Stones arising in the antral cavities are uncommon and, their development is similar to that of a sialolith. They may form around a nidus or concentrated mucus, which continues to grow because of the precipitation of calcium salts in concentric layers [1,2].

Smaller anthroliths are usually asymptomatic and may be discovered incidentally on routine radiography of the region [3].

This article presents a case of antrolith in the maxillary sinus which was discovered on routine radiography, taken prior to orthodontic treatment.

CASE REPORT

A 14-year-old girl with no relevant medical history was referred for orthodontic treatment. Panoramic examination revealed an opacity in the left maxillary canine and premolar area,

which was diagnosed as a supernumerary tooth. She had no previous symptoms and was sent for surgical removal of the supernumerary tooth. A periapical radiograph was obtained before surgery and a 10×6 mm mass was found above the left maxillary canine and premolars (Fig. 1A, B).

Under local anesthesia, a trapezoidal incision was performed extending from the canine to the first molar. A mucoperiosteal flap was elevated and the regional bone was removed, but there was no sign of a tooth or a calcified mass. Subsequently, the maxillary sinus was penetrated and six calcified masses were discovered and removed along with the sinus lining. The largest fragment measured 8×10×10 mm (Fig. 2, arrow). The specimen was placed in formalin and sent to the pathology lab. Histopathological analysis of the antrolith revealed it to be bone-like in formation. Histopathological studies showed



Fig. 1: A calcified mass above the maxillary canine and premolars (arrow).

calcium deposition around a necrotic mass. The pathology report revealed the masses to be antroliths.

DISCUSSION:

Antroliths are calcified bodies within the antral cavity. The occurrence of true antroliths is very rare and only a total of 30 cases have been reported in the literature up until 2005 [4,5]. These masses are usually asymptomatic, but they may be associated with dull pain mimicking sinusitis [6]. Facial pain, nasal obstruction, epistaxis, purulent or blood-stained discharge, foul-smelling postnasal drip, and oroantral fistula have also been stated as clinical features in symptomatic cases. A number of patients describe a history of tooth extraction, 3 months to 21 years before consultation [4].

Radiographically, a dense, irregular yet well-defined mass can be identified in the antrum. They can be seen on panoramic, periapical, and Waters' radiographs in addition to computed tomograms [6].

Antroliths may develop in an environment of chronic sinusitis. The nidus for this calcification may be endogenous from materials such as inflamed mucus, pus or clots. In other cases, the source may be exogenous from tooth roots or foreign bodies such as dental materials, vegetable matter, paper, glass and

stone. Focal antral calcification also has been seen in sinuses filled with a fungal ball of *Aspergillus fumigatus* (noninvasive mycetoma) [7].

Antroliths must be included in the differential diagnosis of radiopacities found in or near the maxillary sinus region. Other possible diagnoses can be supernumerary tooth, root fragments, osteoma, complex odontoma, mature cementoma, a periapical condensing osteitis, a buccal exostosis, a palatine torus, an impacted tooth, foreign bodies, and even neoplasms in cases of large calcified masses of the antral area [3,8].

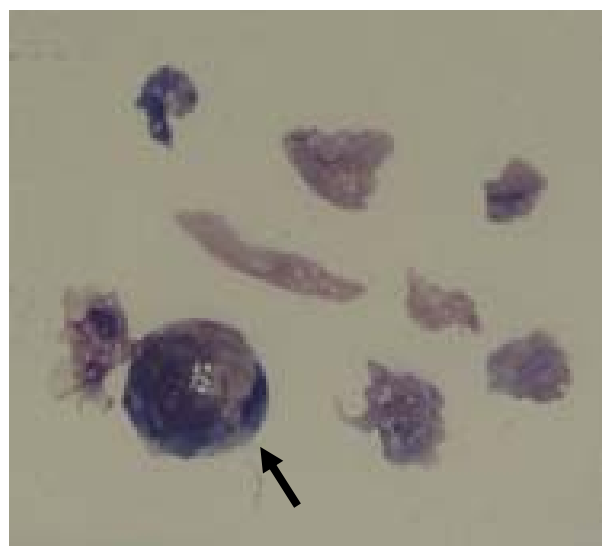


Fig. 2: Masses removed from sinus.

Regarding the wide range of entities that can be considered in the differential diagnosis of antroliths, meticulous examination of a questionable opacity in the general region of the antral cavities is proposed for an accurate surgical treatment plan. Therefore it is particularly important to obtain maxillary views (such as panoramic, occlusal, Waters', and posteroanterior), as well as several additional periapical radiographs to facilitate the differential diagnosis, since these projections show the complete lesion or structure and demonstrate whether the mass is in the sinus or adjacent maxillary alveolar bone. Different projections further enable the clinician to determine the relative location of the object by its apparent shift in position according to the varying angles of exposure [3].

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