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BILATERAL CHOLESTEROL GRANULOMA OF MAXILLARY SINUS: A CASE REPORT

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ABSTRACT

Cholesterol Granuloma [CG] is a rare pathology found in the paranasal sinuses and is usually associated with middle ear infections. The etiology of sinonasal CG is not yet known. The clinical manifestations are nonspecific. Most patient presents with nasal discharge, facial pain and nasal obstruction similar to current case. The additional feature observed in the present case was bilateral CG of the maxillary sinus which was extending into ostiomeatal complex and into the oral cavity, whose clinical, imaging and histological characteristics were unique.

Key words: Cholesterol granuloma, maxillary sinus, ostiomeatal complex, Caldwell luc.

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INTRODUCTION:

Cholesterol granuloma (CG) is a foreign body reaction. It is mainly due to the presence of Cholesterol crystals and the components of the granulation tissue formed during the inflammatory process. CG is a fibrous granulation tissue which consists of cholesterol clefts, foreign body giant cells, foam cells and

macrophages filled with hemosiderin pigments [1]. It usually develops in association with chronic middle ear diseases and affects the mastoid antrum and air cells within the temporal bone. It can rarely develop in the Paranasal sinuses [2]. There are only few case reports where there was involvement of both maxillary antrum. The present case is unique

since it had bilateral involvement of CG which was extending into the oral cavity. Most of these cases have been treated with radical operative techniques, including Caldwell luc operations similar to our case [2].

CASE REPORT:

A 60- year- old- male patient reported to the Department of Oral Medicine and Radiology (DOMR), Yenepoya Dental College and Hospital, with a complaint of a growth arising from the socket of recently extracted tooth. The tooth was extracted four weeks back and after one week the patient noticed a slow progressive painless growth in the same region. The patient complained of mild pain in the left maxillary sinus with intermittent nasal discharge since four months. Extra oral examination revealed a mild facial asymmetry in left middle 1/3rd of face with tenderness and firmness in the left maxillary sinus region. Intraoral examination revealed a well defined tooth like, yellow colored, pedunculated growth, measuring about 1.5 X 1.0 CM in the left alveolar process of third molar region. The surface of the growth appeared rough with indentation of opposite tooth cusps. On palpation, growth was non tender, mobile, soft in consistency and was attached to alveolar socket [Fig 1].

Intraoral periapical radiograph showed unclear socket with loss of continuity in the floor of the

maxillary sinus [Fig 2]. Computed Tomography revealed complete haziness in the left maxillary sinus extending into superior and middle concha and a well defined polyp in right maxillary sinus region [Fig 3]. The growth was excised followed by curettage of maxillary sinus through Caldwell Luc approach. The excised specimen was subjected to histopathological examination by using hematoxylin-eosin stain. It revealed cluster of cholesterol clefts surrounded by multinucleated giant cells and there was granulation tissue formation with infiltrate of lymphocytes and plasma cells in connective tissue [Fig 4].

DISCUSSION:

Cholesterol granuloma is rare sinus benign tumor. It was first described by Graham and Michael in 1978 [1]. It occurs mainly in middle age males with a history of rhinitis, facial pain, headache and nasal obstruction [2].

There are several schools of thoughts for pathogenesis of CG which includes impairment of drainage, disturbed ventilation, and hemorrhage into bony cavities with haemolysis, which leads to cholesterol precipitations [3]. This substance, coming from the destroyed cellular membranes of the erythrocytes, crystallizes because of the slow drainage of the sinus causing the inflammatory process of the adjacent tissues and the formation of the granulomas [4].



Figure 1: Intraoral photograph showing tooth like irregular shaped growth through mirror



Figure 2: Intraoral Periapical Radiograph showing loss of continuity of floor of maxillary sinus



Figure 3: CT showing diffuse haziness of left maxillary sinus and well defined granuloma in right antrum

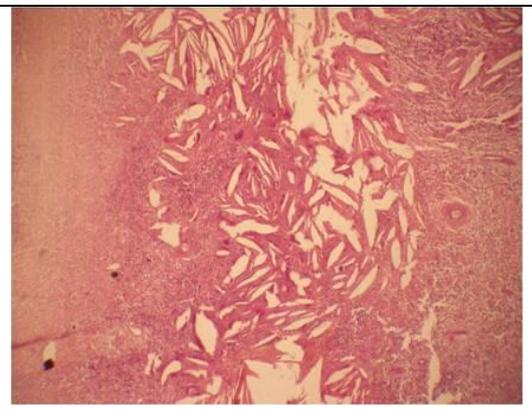


Figure 4: Histopathological Photograph Showing chronic inflammatory cells with numerous vessels and cholesterol clefts in the connective tissue

The symptoms of the CG are notably non-specific and are similar to many inflammatory sinopathies. Some authors recognize the clear golden yellow rhinorhea as the only specific sign of the disease [5].

The present case had initial rhinorhea later nasal obstruction, facial pain and growth protruding to oral cavity after traumatic

extraction of tooth. The differential diagnosis of sinonasal CG includes mucocele, cysts, neoplasm and chronic inflammatory processes of the sinus mucosa [5]. Water's and CT images shows cyst-like or a massive opacification of the sinus. In some cases growth even involves the osteo-meatal complex similar to our case. The radiological features could be similar to chronic inflammatory polyp

of the sinus, antro-chonal polyp and benign neoplasm. Histological examination is usually used to reveal the rare diagnosis of cholesterol granuloma [6].

The CG of the maxillary sinus is a difficult disease to diagnose without the auxiliary help of histological examination because of the non-specific symptoms and the endoscopic and radiological signs similar to other diseases (neoplastic or inflammatory). Surgical excision of the lesion, through Caldwell Luc approach is recommended [6].

The present case is the rare case with an unusual feature of CG herniating into oral cavity through the extracted socket. The characteristic clinical features and bilateral involvement of both the antrum prompted us to report the current case.

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