



Globulomaxillary Cyst at a Seldom Site between Left Maxillary Central and Lateral Incisor in a 21 Year Old Female: A Case Report of a Vacillating Entity

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ABSTRACT: Globulomaxillary cyst is one of infrequent non odontogenic cysts characterized as inverted pear shaped unilocular radiolucency in almost entire roentographic investigations. This remains asymptomatic for eons and rarely gets infected. This case report discusses the clinical and histopathological features of an uncommon globulomaxillary cyst at a less frequent site in between left maxillary central and lateral incisor in a 21 year old female patient treated successfully by surgical enucleation.

KEYWORDS: Non-odontogenic, Globulomaxillary cyst, Panoramic radiograph, Radiolucency, Pseudostratified ciliated epithelium

I. INTRODUCTION:

The globulomaxillary cyst encountered during the course of embryonic palate development is considered to be as fissural cyst secondary to proliferation of ensnared nonodontogenic epithelium between the globular portion of the medial nasal and maxillary processes and this is most accepted hypothesis. Fusions of palatal process take place leading to complete lysis of epithelium and in case failure of complete epithelial lysis it can lead to entanglement of epithelial elements between embryonic processes of bone. Predominant site of entrapment of epithelium is between the maxillary lateral incisors and canines. [1] This epithelial tissue may undergo proliferation and cystic degeneration. The site of the clefts and of the fusion, respectively, is not at the junction of the premaxilla and maxilla, but varies between the central incisor and the canine, being most often in the location of the lateral

incisor. [2] The globulomaxillary cysts, on the other hand, form in fact typically at the junction of the premaxilla and maxilla, that is, between the lateral incisor and the canine. This entity arises at the junction between maxilla and premaxilla. Therefore it is also known as premaxilla- maxillary cyst. The earlier belief regarding its embryonic origin was that cyst forms due to entrapment of the ectoderm but now this hypothesis is no longer considered. [3]

II. CASE REPORT:

A 21 year-old female reported to Department of Oral Medicine, Diagnosis & Radiology, Institute of Dental Education & Advance Studies with chief complaint of spacing in her upper front teeth region since 2 months. Spacing gradually progressed over a span of 2 months. Patient also complains of pain at same site since then. Pain was dull, intermittent and non radiating in nature. It aggravated on applying pressure and relieved on its own. No relevant medical was present. Personal history revealed she eats 12 betel nut pieces per week since 6 years. Patient gave no history of dental trauma. No extra-oral swelling was present. There was no lymphadenopathy. On intra oral examination there was slight protuberance evident with firm and non fluctuant swelling present along with pus discharge in attached gingiva on labial aspect distal to 21 and mesial to 22. Overlying mucosa was normal in appearance with no change in the color of the soft tissues around the lesion. No tenderness was elicited in labial and palatal cortical plates in between 21 and 22. Grade I mobility was found in relation to 21 and tender on percussion was positive



in relation to 21 and negative in relation to 22. Electric pulp vitality test of 21 and 22 was done which gave inference of vital pulp of these teeth. Other non significant oral findings were mild interdental spacing in between 31, 32, 33 and also in between 41 and 42. A digital panoramic radiograph was taken revealing a unilocular inverted pear shaped well defined scooped out radiolucency with sclerotic borders in between 21 and 22 along with displacement of their apices and loss of lamina dura. There was no resorption of roots of the involved teeth. Other non significant finding includes generalized interdental bone loss. [Figure 1]. Provisional diagnosis was made as globulomaxillary cyst and for surgical procedure informed consent was taken. Routine hematological investigations were carried out before planning surgery and all parameters were found to be in normal limits. The cyst was enucleated using intra-oral approach under local anesthesia in department of oral and maxillofacial surgery [Figure 2]. Tissue was sent for histopathological evaluation to department of oral and maxillofacial pathology. Microscopic examination of the specimen revealed pseudo stratified ciliated epithelium with overlying inflammatory cells and goblet cells. Mixed inflammatory cells and endothelial lined blood vessels were seen in majority in stroma [Figure 3]. She was eventually diagnosed as globulomaxillary cyst. Follow up for three months was carried out. Iodoform dressing was replaced at an interval of every fifteen days and the progress of the healing was noted.

III. DISCUSSION:

The prototypical roentographic feature of globulomaxillary cyst is inverted pear-shaped, well defined radiolucency causing separation of roots of lateral incisor and canine. Anatomic depression in the labial plate between the maxillary canine and lateral incisor gives a similar radiographic appearance and this should be differentiated.[4] In present case it is present at an occasional site between maxillary central and lateral incisors. It is one of paradigmatic non-odontogenic cyst and can be differentiated from other cysts on the basis of their anatomical location. Radiographic investigations range from intraoral periapical radiograph, occlusal radiograph to extraoral panoramic radiograph and 3 dimensional imaging computed tomography and magnetic resonance imaging. These are usually detected as incidental findings in radiographic investigations and are asymptomatic unless gets secondarily infected. But in present case it was symptomatic. In computed tomography scans it exhibits oval or round shape

and present as hypo dense entity & no enhancement has been found in contrast enhanced computed tomography imaging. Bone resorption is frequently evident as lesion is of expansile nature along with egg shell type of margin but discontinuity in cortical bone is occasional. Similar findings were also seen in present case.[5] In magnetic resonance imaging this cyst reveals intermediate signal in T1 weighted image and hyper intensity on T2 weighted image.[6] in present case three dimensional imaging was not done. Based on the clinical and radiographic examinations, differential diagnosis encompasses of array of odontogenic cysts and tumors, inflammatory lesions such as residual, radicular or lateral periodontal cyst, odontogenic keratocyst, traumatic bone cyst, adenomatoid odontogenic tumor and ameloblastoma and a number of nonodontogenic conditions such as nasopalatine, median palatal and nasolabial cyst.[7] In contrast to globulomaxillary cyst lateral periodontal cyst has predilection for mandibular cuspid-bicuspid region of the mandible and less frequently in the maxilla. Roentographically they present as sharp bordered well demarcated radiolucency and seldom are larger than a centimeter. They are asymptomatic, do not interfere with the vitality of adjacent teeth and are usually discovered on routine dental radiographs. It is always unilocular but in multilocular case they are said to be botryoid. [8] Calcifying Odontogenic cyst the only cyst that may produce calcifications so that it may have a mixed radiolucent radiopaque appearance radiographically in contrast to homogenous inverted pear shaped radiolucency in globulomaxillary cyst. It may be an isolated entity or appear in conjunction with another lesion like odontoma. Nasopalatine cyst appears as solitary well defined heart shaped unilocular radiolucency with corticated borders develop in the midline of the anterior maxilla near the incisive foramen. An odontogenic keratocyst exhibits both unilocular and mulilocular radiolucency radiographically. Lesions are usually well defined, having smooth margins without bone expansion or generally limited expansion. It is found mainly in mandibular molar region and rarely in maxilla. [9] Treatment of cysts in the globulomaxillary area usually consists of surgical enucleation. Large cysts are usually treated by enucleation or marsupialization before enucleation. If the lesion can be related to an adjacent non vital tooth, then endodontic therapy may be appropriate. Prognosis depends on the specific histopathologic type of cyst. [10]



IV. CONCLUSION

Diagnosis of Globulomaxillary cyst is arduous because of asymptomatic background and attention is drawn only after these are diagnosed. Thorough workup for differential diagnosis along with advanced three dimensional imaging modalities has brought revolution in diagnosing this entity.

V. DISCUSSION:

Globulomaxillary cyst is an uncommon entity. It was traditionally described as a fissural cyst between the maxillary lateral incisor and canine teeth, secondary to proliferation of entrapped epithelium between the globular portion of the medial nasal and maxillary processes. They are painless, submucosal, non odontogenic jaw cysts presenting as soft tissue swellings in the maxillary anterior mucolabial fold lateral to midline. It causes the roots of these teeth to diverge. Large cyst usually treated by enucleation or in a procedure called marsupialization before enucleation or in a procedure called marsupialization before enucleation.

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Figure 1 Pear shaped radiolucency in between 21 and 22

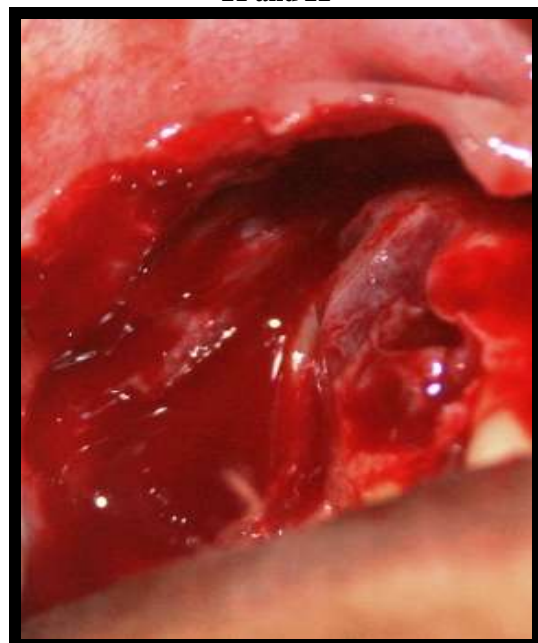


Figure 2 Site after cyst enucleated

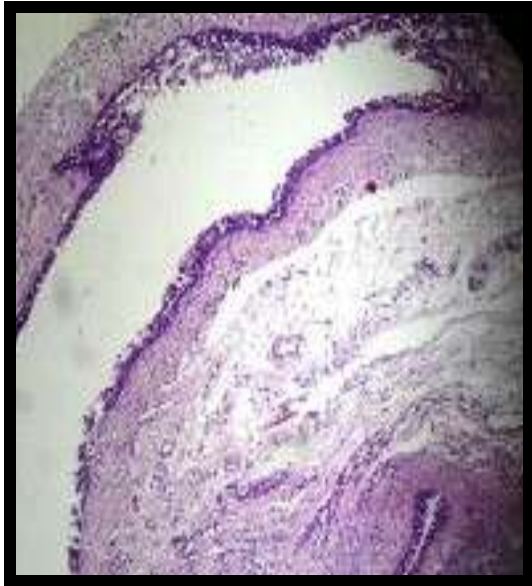


Figure 3 Histopathological specimen