ORIGINAL RESEARCH PAPER
Volume-9 | Issue-4 | April-2020 | PRINT ISSN No. 2277 - 8179 | DOI : 10.36106/ijsr
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

GLOBULOMAXILLARY CYST: A DIAGNOSTIC FALLACY

Dental Science

Dr. Tyagi G. Teltumde* BDS P.G. Student, Dept. of Oral and Maxillofacial Surgery, C.S.M.S.S Dental College and Hospital, Aurangabad. *Correspondence Author

Dr. Sanket Togrikar BDS Intern, C.S.M.S.S Dental College and Hospital, Aurangabad.

ABSTRACT

Globulomaxillary cyst is a notable, entrenched clinicopathologic element which has its alleged origin from entangled non-odontogenic epithelium. It was traditionally viewed as an incorporation or developmental cyst that emerged from entangled, non-odontogenic epithelium in the intersection of the globular part of the medial nasal process and the maxillary process.However, electron microscopic studies have invalidated the idea of fusion during the embryonic development of this area. Hence, the pathogenesis of globulomaxillary cyst is questioned. This article includes a case report of globulomaxillary cyst, its treatment and controversies related to it.

KEYWORDS

globulomaxillary cyst, non-odontogenic epithelium, developmental cysts

INTRODUCTION:

The globulomaxillary cyst was first depicted by Thoma in 1937. It was traditionally viewed as an inclusion or developmental cyst that emerged from entrapped, non-odontogenic epithelium in the junction of the globular portion of the medial nasal process and the maxillary process. The cyst has routinely been portrayed as asymptomatic and appeared on radiographic examination as inverted-pear shaped radiolucency between the roots of the maxillary lateral incisor and canine. The first version of WHO Histologic Typing of Odontogenic Tumors, Jaw Cysts, and Allied Lesions, went along in 1971 by Pindborg and Kramer incorporated the expression "globulomaxillary cyst"[1]whereas the recently updated second edition (1992) of this WHO publication does not.[2,3]The cysts located in the anterior maxillary area, except for radicular cysts, belong to the following categories : nasoalveolar, median palatal, globulomaxillary, and incisive canal cysts. As indicated by Robinson[4] they are delegated developmental cysts emerging from non-dental tissues. The epithelium that serves as the nidus for the development of these cysts is derived from embryonic epithelial inclusions. There is not yet a satisfactory clarification for the inception of cyst formation, and the lesions stand at a questionable position between the inflammatory hyperplasias and the neoplastic processes.

The globulomaxillary growth, for example, the one revealed here, developmental or fissural cysts, is moderately uncommon. It develops from residual epithelium along the line of fusion between the nasomedial (globular) and maxillary processes. Except if convoluted by an intense episode, these growths are symptomless, being found on routine dental radiographic assessment. An early sign of their essence might be an adjustment in position of the lateral incisor and canine constrained separated by the developing cyst. Afterward, extension of the cortex may happen with protruding in the alveolar plate generally at the labial surface of the maxilla.

Case Report

A 29 year old male presents with an intraoral swelling with respect to upper left teeth for last two months and the swelling gradually increased in size and was visible externally as a bulge. He was asymptomatic except for occasional foul yellowish-white discharge from the crevices of canine. He obtainedorthopantomogram and CT scan of the lesion.

Examination:

On local examination there was a conspicuous elevation of the upper lip extending towards lateral nasal wall on the left side. The swelling was situated in the canine fossa, measuring about 4x3 cm in size, globular with well defined margins. The mucous membrane was intact and stretched over the swelling. It was non-tender, bony in consistency with egg shell crackling at places. Teeth gave a normal response to the several diagnostic tests (thermal and electric). Radiograhic assessment demonstrated an inverted pear-shaped radiolucent area extending from apex of the left lateral incisor to the apex of the left first premolar and between the lateral surfaces of those (Fig. 1). The roots of the teeth were pushed apart due to the pressure of the cyst. There was no palatal elevation.

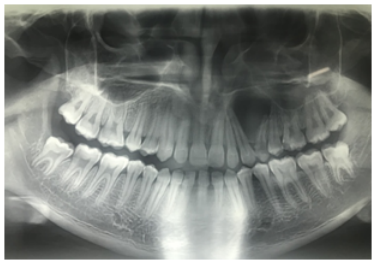

Fig.1: Orthopantomogram showing inverted pear shaped radiolucency with respect to 23 and 24.

Surgical procedure:

After suitable lab investigations (bleeding and coagulation time etc) and intentional root canal treatment with 23 and 24, the patient was given antibiotic one hour before operation. Under block anesthesia, a trapezoidal mucoperiosteal flap was reflected from 11 to 26 (Fig.2). Bone removal with bur was not required as there was erosion of the cortical plate at some places thereby exposing the cystic lining. The opening was enlarged with Rongeur forcep to visualize cystic lining to the most. The cystic lining was identified and enucleated in toto. Sharp bony margins were smoothened out using file. Minute bleeding points in the cavity were chemically cauterized (Fig.3). The cavity was irrigated with pure Betadine solution, and the flap was sutured into place.

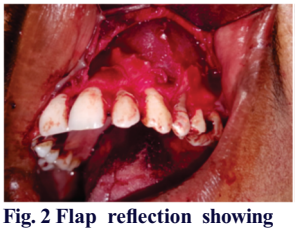

Fig. 2 Flap reflection showing bony erosion and cystic lining.

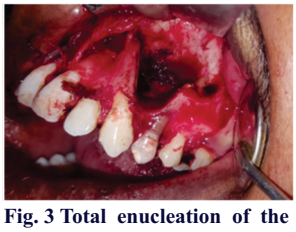

Fig. 3 Total enucleation of the cystic lining followed by chemical cauterization.

Controversies:

Christ in 1970 investigated 27 cases of his own records that have previously been diagnosed as globulomaxillary cysts; 24 turned out to be inflammatory cysts, 2 keratocystic odontogenic tumors, and 1lateral periodontal cyst.[5]

Wysocki in 1981 examined 37 cases that had been diagnosed clinically as globulomaxillary cysts. On histological examination, 19 were radicular cysts, 6 periapical granulomas, 4 lateral periodontal cysts, 3

keratocystic odontogenic tumors, 3 central giant cell granulomas, 1 calcifying odontogenic cyst, and 1 odontogenic myxoma.[6]During the 80's, most oral pathologists and radiologists have quit utilizing the expression "globulomaxillary cyst" as a demonstrative term and have acknowledged the way that various odontogenic cysts, including radicular, lateral periodontal, keratocystic odontogenic tumors, adenomatoid odontogenic tumors, and calcifying odontogenic cyst can appear radiologically as globulomaxillary radiolucencies. This acceptance was reflected by the fact that the term "globulomaxillary cyst" had been dropped out from the 2nd edition of WHO Histologic Typing of Odontogenic Tumors, Jaw Cysts, and Allied Lesions, complied in 1992.[2,3]

Ferenczy[7] imagined that the purpose of fusion of the embryonic processes was anterior to and not at the bone suture seen between the maxillary lateral incisor and canine teeth (the globulomaxillary, incisive, or premaxillary-maxillary suture), the suture in which the cyst was accepted to form. Ferenczy[7] put together his hypothesis based on the works of Brandt and Roper-Hall,[8] Millhon and Stafne,[9] and Kolliker. Thoma and Goldman agreed with Ferenczy3 and thought that the lesion should be renamed interosseous or intermaxillary cyst.[10]

CONCLUSION:

Documentation from the studies concerning embryology uncovered that facial processes do not exist as such and that ectoderm does not get entrapped in the facial fissures of the nasomaxillary complex. This spontaneous critique contends that there is no embryologic or pathologic basis for what alleged globulomaxillary cyst, and thus should no longer be considered as a perceived pathologic entity.

REFERENCES:

1. PINDBORG, J. T. (1971). Histological typing of odontogenic tumors, jaw cysts, and allied lesions. WHO, 18-27.
2. Kramer, I. R. (1992). International histological classification of tumours. Histological typing of odontogenic tumours.
3. Kramer, I. R., Pindborg, J. J., & Shear, M. (1992). The WHO histological typing of odontogenic tumours. A commentary on the second edition. Cancer, 70(12), 2988-2994.
4. Robinson, H. B. (1945). Classification of cysts of the jaws. American Journal of Orthodontics and Oral Surgery, 31(6), A370-A375.
5. Christ, T. F. (1970). The globulomaxillary cyst: an embryologic misconception. Oral Surgery, Oral Medicine, Oral Pathology, 30(4), 515-526.
6. Wysocki, G. P. (1981). The differential diagnosis of globulomaxillary radiolucencies. Oral Surgery, Oral Medicine, Oral Pathology, 51(3), 281-286.
7. Ferenczy, K. (1958). The relationship of globulomaxillary cysts to the fusion of embryonal processes and to cleft palates. Oral Surgery, Oral Medicine, Oral Pathology, 11(12), 1388-1393.
8. Brandt, W., & Roper-Hall, H. T. (1941). The aetiology of cysts of developmental origin in the premaxillary region. Br Dent J, 70, 213-21.
9. Millhon, J. A., & Stafne, E. C. (1941). Incidence of supernumerary and congenitally missing lateral incisor teeth in eighty-one cases of harelip and cleft palate. American Journal of Orthodontics and Oral Surgery, 27(11), A599-A604.
10. Thoma, K. H., & Goldman, H. M. (1960). Oral Pathology, ed 5, St. Louis: The CV Mosby Company.