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GLANDULAR ODONTOGENIC CYST – A CASE REPORT

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Abstract: The glandular odontogenic cyst is an infrequent cyst of odontogenic origin, seen in maxilla or mandible, with an erratic and sometimes violent behavior. Its tendency for recurrence and inclination to expand to a great size are also present. Another name for it is Sialo-Odontogenic Cyst. Under a microscope, GOC is frequently misidentified as a central mucosal epidermoid carcinoma. The rare nature of the cyst and the absence of precise diagnostic standards can make the diagnosis of GOC very challenging. This article addresses the clinical and histological characteristics of GOC and describes a case involving a 54-year-old man.

Keywords: Glandular odontogenic, neoplasm, multicystic, Sialo-odontogenic

Introduction

An extremely uncommon developing odontogenic cyst of the jawbones that behaves aggressively is known as a glandular odontogenic cyst (GOC). [1] GOC was initially identified by Padayachee and Van Wyk in 1987 as a Sialo-odontogenic cyst.[2] Immunohistochemistry has verified that this cyst has an odontogenic origin. It often manifests as a slowly increasing, asymptomatic lump in the anterior portion of the jaw, and it primarily affects middle-aged people with a somewhat increased preference for men. [3,4] t manifests as a well-defined, radiolucent lesion that frequently crosses the midline, either unilocular or multilocular.[5] Its histological feature is that the squamous epithelium that lines the cyst exhibits tiny, duct-like gaps that are partially encircled by cells that produce mucin. Treatment options range from straightforward surgical enucleation to forceful excision. There is a significant recurrence rate.[6]

Case Report

A 54-year-old male patient reported to dental out patient department of our college with a chief complaint of pain in the lower jaw for past two months Patient was apparently normal before 2 months then he developed a pain which is dull throbbing in type, intermittent in nature and subsides on taking medication.He also had a painful ulcer on lower labial vestibule. Patient medical history revealed that the patient was known diabetic for
the past 4 years and under medication for the same. On past dental history, patient underwent consultation for the same in a private dental clinic, OPG and CT PNS view was taken. On general examination, he had normal gait and posture and was well oriented, conscious and moderately built. mouth opening within the normal limit was seen. On hard tissue examination the patient had partially edentulous 48,38 and dental caries in 46 and 35.On Extra oral examination, mild tenderness on palpation was seen over the left parasymphysis region. No evidence of swelling and discharge. On intraoral soft tissue examination, on inspection, obliteration of lower vestibule was evident.
On palpation, all inspectory findings were confirmed with respect to number, site, size, shape and extent. Tenderness was seen over the left buccal vestibule.There was no pus discharge evident on palpation. Tongue movement was normal and able to perform all movements. With these clinical findings the provisional diagnosis was attained to be aneurysmal bone cyst and the patient was sent to the surgery department for futher management.The excised cyst was sent for a histopathological examination.

Figure 1: Intra oral lesion

On histopathological examination, studied section shows multilocular cyst lined by variable thickness of epithelium ranging from thin layer of flattened to thick layer of stratified squamous epithelium with focal low columnar cell changes on the luminal surface. Focal area of intraepithelial microcytes and clear cells metaplasia seen. Thickened cyst wall shows fibrous stroma, mild vascular proliferation and lymphocytic infiltration with mature bone.

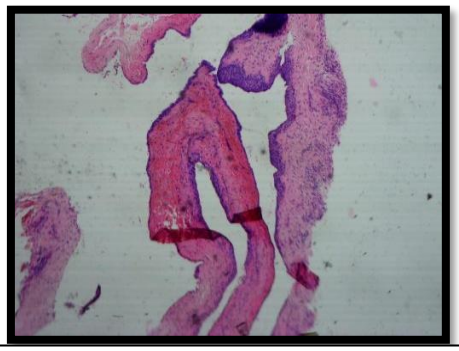

FIG 2(a): H and E section shows thin layer of flattened to thick layer of stratified squamous epithelium

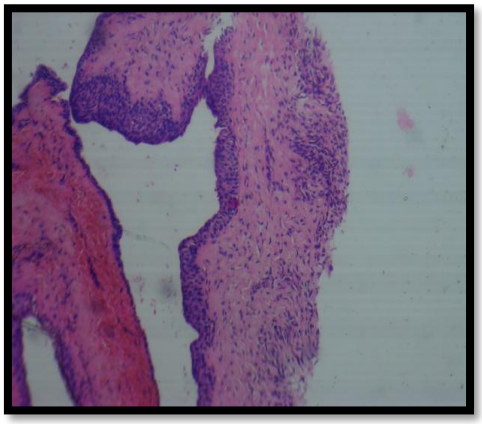

FIG 2(b): H and E section shows fibrous stroma and lymphocytic infiltration (10X)

Discussion

Glandular odontogenic cyst is a rare developmental odontogenic cyst accounting for about 0.012% to 1.3% of all jaw cysts.[1] It has a slight male predilection, commonly seen in middle age group with an increased preponderance for the anterior lower jaw[2] . The lesion is usually asymptomatic. Radiographically, the features of GOC are varying and are not pathognomonic. It may present as unilocular or multilocular radiolucency with well-defined border[11].Despite the lack of notable clinical or radiographic characteristics, GOCs have unique histopathologic characteristics that should be thoroughly examined before making any kind of neoplasm diagnosis[3]. Kaplan et al formulated a set of major and minor criterions for the diagnosis of GOC [4,5]. Major Criteria includes Squamous epithelial lining, with a flat interface with the connective tissue wall, lacking basal palisading. Variations in thickness of the epithelium throughout the cystic lining, associated with or without focal luminal proliferation or epithelial "spheres" or "whorls" Linked cells. Hob-nail" or cuboidal eosinophilic cells. Goblet cells that produce mucus and have intraepithelial mucous pools, either with or without crypts lined by these cells. Intraepithelial glandular, microcystic or duct-like structures. Minor criteria includes papillary proliferation of the lining epithelium with Ciliated cells .Architecture that is multicystic or multiluminal and cells in the spinous or basal layers that are clear or vacuolated. They proposed that to conclude to a diagnosis all the major criteria should be fulfilled, and the minor ones may aid in the same. The above case shows most of the characteristic features such as of stratified squamous epithelium with focal low columnar cell changes on the luminal surface, Goblet cells that produce mucus and have intraepithelial mucous pools,and papillary proliferation of the lining epithelium with Ciliated cells. From this we conclude the diagnosis as glandular odontogenic cyst

On the other hand, because of its histological similarities to other tumours such central mucoepidermoid carcinoma (CMEC), botryoid odontogenic cyst (BOC), and lateral periodontal cyst (LPC), this also presents a diagnostic challenge. Numerous writers have proposed the microscopic standards for GOC diagnosis. Fowler et al proposed ten specific microscopic features and suggested that the presence of seven or more of these features are highly predictive of GOC.[10]

The treatment modalities of GOC include enucleation with or without curettage, marsupialization, peripheral ostectomy, chemical cauterization with carnoy's solution, and marginal or segmental

resection.[6] Nevertheless, conservative surgical approach such as enucleation with or without curettage and peripheral ostectomy are the commonest treatment modalities reported in the literature.[7,8] Due to its tendency to recur after conservative surgical approach, some authors prefer marginal resection and segmental resection especially in larger lesions. The high rate of recurrence can be attributed to thin lining, multilocularity of cyst, presence of microcysts, and high mitotic capacity of cells similar to odontogenic keratocyst[9]

Conclusion:

Because of its nonspecific clinico-radiographic features, glandular odontogenic cysts are frequently misdiagnosed. Therefore, careful histopathological evaluation is necessary for final diagnosis along with the long-term follow-up to rule out the recurrences. Glandular odontogenic cysts are rare odontogenic cysts with aggressive clinical behavior and a high rate of recurrence.[1,7]

Refrences:

1. Mascitti M. Glandular odontogenic cyst: Review of literature and report of a new case with cytokeratin-19 expression. Open Dent J 2014; 8:1.
2. Padayachee A, Van WykCW.Two cystic lesions with features of both the botryoid odontogenic cyst and the central mucoepidermoidtumor: sialo-odontogenic cyst? Journal of Oral Pathology 16 (1987): 499-504.
3. .Shah AA, Sangle A, Bussari S, Koshy AV. Glandular odontogenic cyst: a diagnostic dilemma. Indian J Dent. 2016;7(1):38-43.
4. Krishnamurthy A, Sherlin HJ, Ramalingam K, et al. Glandular odontogenic cyst: report of two cases and review of literature. Head Neck Pathol. 2009;3(2):153-158
5. Faisal M, Ahmad S, Ansari U. Glandular odontogenic cyst Literature review and report of paediatric case. J Oral BiolCraniofac Res 2015; 5:3.
6. Freitas Silva BS. 20-year follow-up of recurrent glandular odontogenic cyst mimicking a periapikal lesion. J Endod 2017; 43:11.
7. Khadar Shaik, Vijay Reddy, Ramesh and Haripriya Chari. A case report of glandular odontogenic cyst of mandible. Oral Health and Care 3 (2018): 1-4.
8. Yanduri S, Deepa KK, Kumar BV, et al. Glandular odontogenic cyst: Analysis of clinicopathological features of five cases. Indian Journal of Oral Health Research 3 (2017): 40-45.
9. Kaplan I, Anavi Y, Hirshberg A. Glandular odontogenic cyst: A challenge in diagnosis and treatment. Oral Diseases 14 (2008): 575-581.
10. Kaplan I, Anavi Y, Manor R, et al. The use of molecular markers as an aid in the diagnosis of glandular odontogenic cyst. Oral Oncology 41 (2005): 895-902.
11. Chandra S, Reddy ESP, Sah K, Srivastava A. Maxillary glandular odontogenic cyst: an uncommon entity at an unusual site. Arch Iran Med. 2016;19(3):221-224.