



Glandular Odontogenic Cyst of Mandible: A Rare Case

Trupti S Nikalje^{1*}, Kanchan Shah² and Shibani Nerurkar¹

¹MDS Oral and Maxillofacial Surgery, Assistant Professor, Government Dental College and Hospital Aurangabad

²Associate Professor, Department of Oral and Maxillofacial Surgery, Government Dental College, Aurangabad

***Corresponding Author:** Trupti S Nikalje, MDS Oral and Maxillofacial Surgery, Assistant Professor, Government Dental College and Hospital Aurangabad.

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Abstract

Glandular odontogenic cyst (GOC) is a rare cyst. GOC is defined as “a cyst arising in the tooth bearing areas of the jaws and is characterized by an epithelial lining with cuboidal or columnar cells, both at the surface and lining, with crypts or cyst-like spaces within the thickness of the epithelium.” It bears resemblance to both the lateral periodontal cyst (LPC) and botryoid odontogenic cyst (BOC). In addition, it has also been discussed in connection with the mucoepidermoid carcinoma. Here we are presenting a unique case of GOC that reported to our institute, clinical and histopathological features and treatment involving resection and reconstruction with free fibula flap.

Keywords: Glandular Odontogenic; Botryoid Odontogenic Cyst

Introduction

Glandular odontogenic cyst (GOC) is a rare cyst. It was first documented as 'sialo-odontogenic cyst' by Padayachee and Van Wyk in 1987 [1]. It is an uncommon developmental odontogenic cyst of the jaws with a relative frequency between 0.012 and 1.3% [2]. GOC displays an aggressive growth potential hence it is termed as 'polymorphous odontogenic cyst' by High., *et al.* in 1996 [3]. It was termed as “glandular odontogenic cyst” by Gardener., *et al.* in 1987 because the histological features are highly indicative of an odontogenic origin [4,5].

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It bears resemblance to both the lateral periodontal cyst (LPC) and botryoid odontogenic cyst (BOC). In addition, it has also been discussed in connection with the mucoepidermoid carcinoma [6].

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Case Report

35 year old lady reported to the department of Oral and Maxillofacial Surgery, with a complaint of pain with respect to left side of lower jaw. Pain was dull aching and continuous. There were no aggravating or relieving factors. On examination, there was no obvious asymmetry of face. The region was slightly tender to touch and on palpation mild expansion of buccal and lingual cortical plate was appreciated. Submandibular lymph nodes on left side were palpable and tender. Intraorally, 36, 38 were missing as patient gave the history of extraction of the same around 2 years back due to caries. Swelling was not evident intraorally but the buccal vestibule was tender to palpation.

Radiographic examination revealed an unilocular radiolucency in the left mandible involving body and ramus region. Radiolucency was extending from apex of 35 till 1 cm below the sigmoid notch, anteroposteriorly. Superoinferiorly, radiolucency was extending from alveolar ridge till inferior border of the mandible. Provisional diagnosis of odontogenic keratocyst was made. In differential diagnosis ameloblastoma, dentigerous cyst, residual cyst, radicular cyst were considered.

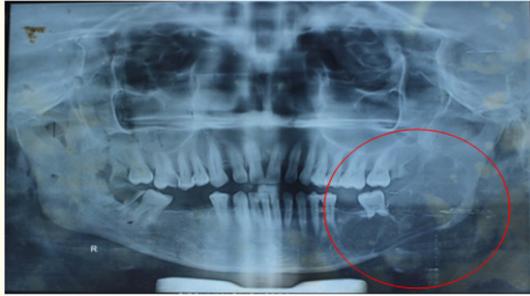


Figure 1: OPG showing radiolucent lesion in the left mandible.

Patient was prepared for the surgery under general anaesthesia. Enucleation of cystic lesion was planned. On reflection of flap, perforation of buccal and lingual cortical plates was noticed. Tumour was resected keeping the condyle intact and reconstructed primarily using a reconstruction plate. Resected tumour was sent for histopathological examination.



Figure 2: OPG after resection of the lesion and primary reconstruction with reconstruction plate.

Histopathological impression came as Glandular Odontogenic Cyst. Patient was under regular follow up for 1 year. After an year the surgical defect was secondarily reconstructed using free fibula flap. Patient is under observation.



Figure 3: OPG after secondary reconstruction with free fibula.

Discussion

GOC affects mandible 3 times more than maxilla [7]. It mostly seen in the anterior region of the jaw [7]. The recurrence rate of GOC ranges between 21% and 55% [7]. The high rate of recurrence may be due to aggressive nature of GOC and compromised cortical integrity. Recurrence is also related to the type of treatment performed.

There is a slight male predilection and lesions occur mostly in middle-aged patients. Painless swelling is the most common sign. The lesion may cause pain due to compression of a neurovascular bundle or secondary infection; inflammation. The anterior mandible is the most common site for occurrence of this cyst. In our case, lesion was found in the posterior mandibular area and was painful [2].

In 1992 WHO established the GOC as a separate entity. GOC is an uncommon jaw cyst of odontogenic origin. Literature review showed that GOC may mimic a wide clinicopathologic spectrum ranging from LPC to a destructive malignant neoplasm such as central mucoepidermoid carcinoma.

Although GOC was referred to as “sialo-odontogenic cyst” at first in 1987, its name was changed to “glandular odontogenic cyst” because of the lack of evidence of salivary gland origin.

The aggressive biologic behavior of GOC and its tendency for recurrence might be associated with cell kinetics in the lining epithelium. Tosios, *et al.* (2000) investigated the expression of bcl-2 protein, Ki-67 antigen and p53 protein in GOCs. They concluded that the increased expression of the anti-apoptotic bcl-2 may be associated with deregulation of cell death in the lining epithelium of the GOCs [7].

Treatment by enucleation or curettage alone is associated with a high recurrence rate. Small unilocular lesions can be treated by enucleation. Surgical treatment of large lesions should include enucleation with peripheral ostectomy for unilocular cases and marginal resection or partial jaw resection in multilocular cases. Follow up should be continued for at least 3 years.

Conclusion

Because of aggressive biologic behavior and tendency for recurrence, adequate treatment is required for GOC. Purpose of this case presentation is to increase existing knowledge of this rare entity.

Patient Consent

Patient's informed consent before surgery under General anesthesia.

Bibliography

1. Padayachee A and Van Wyk CW. "Two cystic lesions with features of both the botryoid odontogenic cyst and the central mucoepidermoid tumour: Sialo-odontogenic cyst?" *Journal of Oral Pathology* 16 (1987): 499-504.
2. Monali Shah., *et al.* "Glandular odontogenic cyst: A rare entity". *Journal of Oral and Maxillofacial Pathology* 18 (2014): 89-92.
3. High AS., *et al.* "The polymorphous odontogenic cyst". *Journal of Oral Pathology and Medicine* 25 (1996): 25-31.
4. Gardner DG., *et al.* "The glandular odontogenic cyst: An apparent entity". *Journal of Oral Pathology and Medicine* 17 (1988): 359-366.
5. Koppang HS., *et al.* "Glandular odontogenic cyst (sialo-odontogenic cyst): report of two cases and literature review of 45 previously reported cases". *Journal of Oral Pathology and Medicine* 27 (1998): 455-462.
6. Ilana Kaplan., *et al.* "Glandular Odontogenic Cyst: Treatment and Recurrence". *Journal of Oral and Maxillofacial Surgery* 63 (2005): 435-441.
7. Tosios KI., *et al.* "Immunohistochemical study of bcl-2 protein, ki67 antigen and p53 protein in epithelium of glandular odontogenic cysts and dentigenous cysts". *Journal of Oral Pathology and Medicine* 29 (2000): 139-144.

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