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Case Report
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Desmoplastic Ameloblastoma - A Case Report

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Abstract

Ameloblastoma is a benign neoplasm derived from enamel organ having a high recurrence rate. Histopathologically, ameloblastomas exhibit proliferating odontogenic epithelium within a background of fibrous stroma. Several histologic subtypes of this tumor have been described. The desmoplastic variant was first described in detail by Eversole et al. although DA has been accepted as a distinct clinicopathologic entity; some researchers still regard it as a histologic variant of ameloblastoma. Because the clinical and histopathologic data concerning this tumor are limited, we report a new case of desmoplastic ameloblastoma in the interest of expanding on what is known about this uncommon lesion.

Keywords: Ameloblastoma; Desmoplastic ameloblastoma; Odontogenic epithelium

Introduction

Ameloblastoma is a benign neoplasm derived from enamel organ that usually exhibits aggressive behavior, causing severe expansion of the cortical bones and may have a high recurrence rate. It also may cause mobility and displacement of the teeth. Some researchers and clinicians have considered ameloblastoma to be a low-grade malignant tumor [1].

Histopathologically, the epithelium is characterized by prominent palisading of the basal cell nuclei (that is, reverse polarization) and vacuolization of the cytoplasm of the basal cells. Foci of squamous like changes, granular cells, clear cells and basaloid cells, as well as follicular, cystic and plexiform patterns, give rise to the histologic variants of this lesion. The desmoplastic variant was first described in detail by Eversole et al. in 1984 [2].

Although DA has been accepted as a distinct clinicopathologic entity, some researchers still regard it as a histologic variant of ameloblastoma [3,4]. Since the clinical and histopathologic data concerning this tumor are limited, we report a new case of desmoplastic ameloblastoma in the interest of expanding on what is known about this uncommon lesion.

Incidence and Prevalence

Desmoplastic ameloblastoma is most likely to occur in the anterior or premolar region of the jaws. Cases have been reported in patients aged 18 to 70 years with a mean of 41.2 years. No difference between sexes has been reported [5]. The incidence of desmoplastic ameloblastoma is low; rates of 0.9% to12.1% of all ameloblastomas have been reported [6].

This type of tumour has been reported mainly in Chinese (in Malaysia and Hong Kong), Malaysians, Afro-Caribbeans and Japanese. No typical radiographic features are associated with this variant of ameloblastoma, although a mixed radiolucent-radiopaque appearance with ill-defined borders has been observed in many cases [7].

Case Presentation

A female of 43 years reported to the Department of Periodontics, Narayana Dental College and Hospital, with a chief complaint of swelling in the left anterior region of the upper jaw present since 2 years. There was no relevant medical history. Extraoral examination revealed obliteration of the nasolabial fold. On intraoral examination a firm, non-tender, well circumscribed lesion oval in shape measuring about 10 mm × 13 mm in diameter was observed on the attached gingiva between the upper left central and lateral incisior, involving the labial vestibular sulcus (Figure 1 and 2). There was mild inflammation associated with the marginal gingiva. On probing shallow pockets were found in the stipulated area. A radiograph of the region showed:

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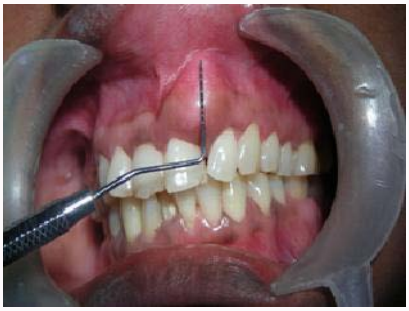

Figure 1: Measurement of lesion 1.

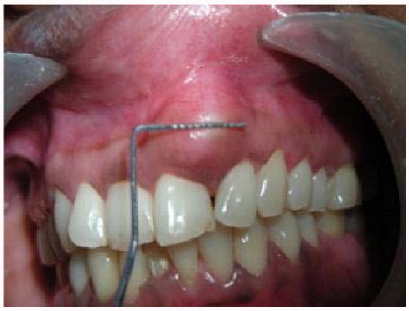

Figure 2: Measurement of lesion 2.

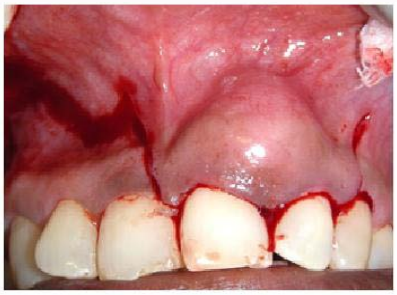

Figure 3: Incision.

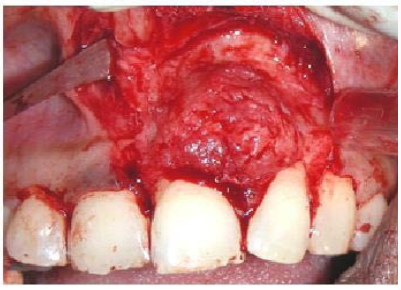

Figure 4: Flap Reflection.

- Noncorticated, inverted, pear-shaped lytic defect measuring 10 mm × 8 mm.
- Mixed radiopacity and radiolucency extended from the alveolar crest to the region between the apices of the roots.

Treatment aspect

A full thickness mucoperiosteal flap was raised under local anesthesia. Two vertical incisions were given up to the mucogingival junction so that the flap could be mobilized (Figure 3). This was

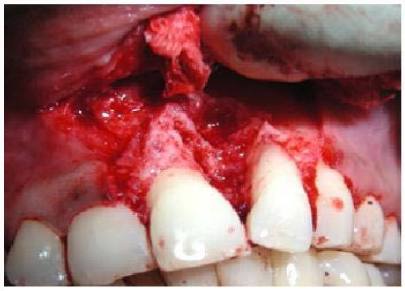

Figure 5: After removal of the Lesion.

Figure 6: Suture.

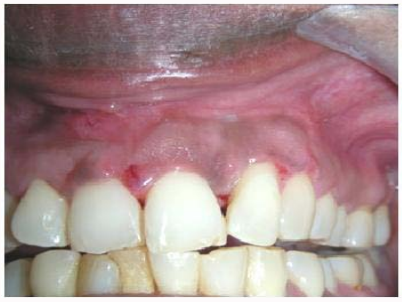

Figure 7: Post Operative Healing.

followed by a crevicular incision and then the interdental incision. On flap elevation a firm, well-circumscribed, granular, nonencapsulated intraosseous mass was noticed (Figure 4). The surface of the osseous bed of the lesion had indentations, which suggested possible infiltration (Figures 5-7). An ostectomy was performed with the help of Ochsenbein Chisel and were immediately sent for histopathologic examination.

Histopathology of the lesion

The sections showed a dense fibrous connective tissue with areas of hyalinization. Scattered amongst the strands were dark stained ovoid/spindle odontogenic epithelial cells and large distinct ameloblastomatous islands with peripheral dark staining flat/vacuolated cuboidal cells. The central stellate reticulum like cells many of which were undergoing squamous metaplastic changes with focal areas of cystic degeneration. Large round foci of immature bony trabeculae were seen. Extravasated RBC's and occasional foci of muscle tissue were also seen. Thus the histological diagnosis was suggestive of Desmoplastic Ameloblastoma with Squamous Metaplasia.

Discussion

Ameloblastoma is a benign neoplasm derived from enamel

organ that usually exhibits aggressive behavior, causing severe expansion of the cortical bones and may have a high recurrence rate. Several histological subtypes of this tumor have been described. The desmoplastic variant was first described in detail by Eversole et al. [2] in 1984.

Waldron and El Mofty et al. [8] in 1987 described a "hybrid" lesion of Desmoplastic Ameloblastoma (DA) and conventional ameloblastoma, which they suggested represented a "collision tumor". Although DA has been accepted as a distinct clinicopathologic entity, some researchers still regard it as a histologic variant of ameloblastoma. The incidence of desmoplastic ameloblastoma is low; rates of 0.9% to 12.1% of all ameloblastomas have been reported. This type of tumor has been reported mainly in Chinese (in Malaysia and Hong Kong), Malaysians, Afro-Caribbeans and Japanese [8,9].

The current case lacked the typical clinical features of ameloblastoma, which was, therefore not considered in the differential diagnosis. Also, the origin of the lesion was under speculation. The lesion could have arised from any of the periodontal component of the enamel organ. Because the clinical and histopathologic data concerning this tumor are limited, we report a new case of desmoplastic ameloblastoma. Limited understanding of its biologic behavior and prognosis, the proper treatment strategies for DA are not entirely defined at this time. Desmoplastic ameloblastoma should be included in the differential diagnosis associated with mixed radiolucent–radiopaque lesions of the jaws. As a periodontist we should be able to establish differential diagnosis of tumors and cysts of gingival and periodontal origin and be able to treat such type of lesions.

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