

Rare Case of Squamous Odontogenic Tumor- A Short Communication

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Abstract

Squamous odontogenic tumor (SOT) is a rare benign odontogenic epithelial neoplasm with very few cases reported till date in the literature. It is a benign but locally infiltrating neoplasm. SOT is usually central, but at times can present itself as a peripheral lesion. Radiographically it appears as a unilocular triangular radiolucency between the roots of adjacent teeth. The recognition of the histopathological features will be the basis for the final diagnosis of a lesion as SOT. This report presents the classic clinical and histologic features of SOT and adds to the few reported cases in the literature.

Keywords: Squamous, Tumor, Squamous Islands, Odontogenic, Maxilla

Introduction

The squamous odontogenic tumor (SOT) was first described by Pullon, et al. in 1975 [1]. SOT is a benign epithelial odontogenic tumor which usually occurs intraosseously and develops in the periodontal ligament between the roots of vital erupted permanent teeth.¹This slow growing tumor presents with very few clinical findings and affects the mandible more often than the maxilla. To date, fewer than 50 cases have been reported in the literature of SOT.

Case report

A 35 year old male patient reported with a chief complaint of painless swelling of three months duration in the left upper jaw. Extra orally, a diffuse swelling was seen near the left ala of the nose with obliteration of the nasolabial fold. Intraorally, a well defined, hard and non-tender swelling was noted in the left maxilla; extending from the region of the left maxillary lateral incisor to the first premolar. There was buccal vestibular obliteration and palatal expansion in the region due to the swelling. The lateral incisor was labially tipped but the associated teeth were not mobile. Radiographically, a diffuse radiolucency was visible around the root of the lateral incisor-canine alveolar bone region (Figure 1). A solid mass was found on excision of the lesion by elevating a mucoperiosteal flap under local anaesthesia. Microscopic picture showed the presence of islands of squamous epithelium in a fibrous connective tissue stroma (Figure 2). Ameloblast-like or stellate reticulum-like cells were not present and there was no mitosis. Microcysts were present within some of the epithelial islands. Histpathologically, it was diagnosed as squamous odontogenic tumour. The patient was followed-up for 5 years with no recurrence (Figure 3).



Figure 1: Buccal cortical plate expansion with labially tipped lateral incisor.

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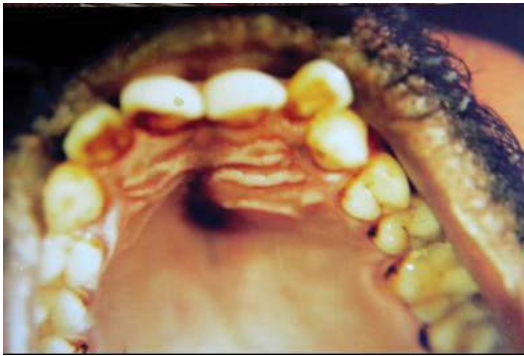


Figure 2: Palatal cortical plate expansion of left anterior maxilla.

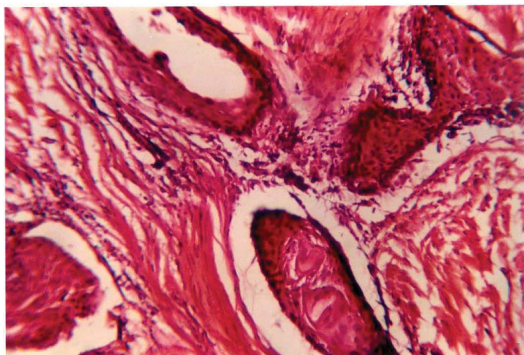


Figure 3: Squamous epithelial islands in connective tissue stroma.

Discussion

Squamous odontogenic tumour (SOT) is a locally infiltrative neoplasm consisting of islands of well-differentiated squamous epithelium in a fibrous stroma. The SOT is a rare tumor with less than 50 cases reported [2]. Squamous odontogenic tumors usually occur in the third decade of life. Maxillary lesions are commonly located in the incisor-cupid area, whereas in the mandible the lesions have a predilection for the bicuspid-molar area [3-5]. The lesion is usually central, but rarely may it be peripheral. This lesion is thought to arise from the epithelial rests of Malassez which are most abundant on the lateral root surface [1]. Therefore the typical radiographic presentation of this tumor is a triangular - shaped or semi-circular radiolucency in the alveolar process between the roots of erupted teeth [6].

Peripheral SOTs which are relatively less common are believed to arise from gingival surface epithelium or from remnants of the dental lamina [7]. It is a slow growing tumor with few clinical features; most common being the presence of teeth mobility, swelling and pain [8].

Radiographically, the most common presentation is a unilocular, often triangular radiolucency between the roots of the adjacent teeth. This is not pathognomonic and in some cases radiographic picture may be similar to periodontal bone loss [9].

As the clinical and radiographic features of SOT are neither unique nor sufficient for diagnosis, this tumor can be confused with periodontal lesions [8]. The diagnosis of this benign lesion

is based on the recognition of the histopathologic features of squamous odontogenic tumor.

Histologically, numerous islands of squamous epithelium dispersed uniformly in a connective tissue stroma can be observed. The squamous epithelial islands are usually rounded, ovoid or markedly irregular in shape. The peripheral cell layer is usually quite flattened or cuboidal [10]. The epithelium in these rounded islands often shows a swirling or “whirlpool” pattern to the central squamous cells. Keratin pearls, microcysts and intraepithelial calcification are often present in SOTs. Fibrous hyalinization can be seen around some of the epithelial islands, which suggests a connective tissue reaction to epithelial proliferation.

The morphologic appearance of the odontogenic epithelial islands in SOT is similar to the follicular pattern of ameloblastomas, which may result in misdiagnosis histologically as acanthomatous ameloblastoma, desmoplastic ameloblastoma or ameloblastic fibroma [10]. However, lack of polarization of peripheral cells in the epithelial islands, which is typical of ameloblastoma is a differentiating feature from SOT. It must also be distinguished from primary intraosseous squamous cell carcinoma, which is rare in young patients and presents with dysplastic features. Accurate histologic diagnosis is important in establishing the treatment procedure as the above lesions with which it is confused needs more aggressive treatment. The commonly followed treatment protocol for SOT is conservative surgical excision. There is very low recurrence rate for this lesion [10].

Conclusion

Since the clinical and radiographic presentation of SOT is not characteristic it is necessary to accurately diagnose it through histopathology. This case report highlights the need for careful histologic assessment of all lesions found in the alveolus so as to enable appropriate treatment of this benign lesion.

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