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Case Report
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Osseosus Choristoma Rarely Observed in Periodontium: A Case Report

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Abstract

We report osseous choristoma on the 31 and 41 teeth lingual periodontium region. A 22-year-old female patient was disturbed by abnormal growth on the lower jaw. There was no pain. The lesion was wellcircumscribed, nonmotile, and peduncled mass. She has been orthodontic treatment before five mounth. The lesion was not symptomatic, but, the lesion started to keep from mastication. The mass was removed by diode laser (Epic, Biolase, Irvine, CA, USA; 810 nm wave length, 10 W power) under local anesthesia. In microscopic examination, under squamous epitelium, the presence of mature bone structure. The excised specimen was confirmed by the pathologist as osseous choristoma. In this case report, trauma is considered a possible etiological factor. Osseous choristoma of the periodontium is extremely rare with only one case reported in the Indian literatüre so far. The number of reported cases or literatures is insufficient, to review this particular type of osseous choristoma and adds to the existing knowledge of the condition.

Keywords: Osseous choristoma; Periodontium; Rarely lesion

Introduction

Osseous Choristoma (OC) is a rarely observed benign tumor developed in oral cavity. Kroll et al. [1] reported 24 cases with bones inside intraoral soft tissue. They identified osseous choristoma as histologically normal but abnormally localized enlargement similar to tumor. This rare tumor-like lesion is characterized by mature lamellar bone developed in oral cavity in soft tissue [1]. It was reported that osseous choristoma is mostly observed on tongue tissue, less frequently on buccal mucosa and alveolar mucosa [2-6]. Several researchers claimed that the lesion isn't a real neoplasm and related to skeletal structure [7]. In this case report, osseous choristoma observed in lingual periodontium of the 31 and 41 teeth is reported.

Case Presentation

After the clinical examination of a 22-year-old woman applied to the Department of Periodontology, Faculty of Dentistry, Necmettin Erbakan University, painless abnormal gingival enlargement on the lingual regions of mandibular 31 and 41 teeth was observed (Figure 1). The lesion area was clear, non-mobile, stemmed and approximately 10 mm in length. In clinical anamnesis, the patient was systemically healthy. After the anamnesis, the patient also reported that the lesion was smaller, but grew continuously in the last five months and that she had orthodontic treatment in another dental center. The lesion was not symptomatic, but during occlusion it was exposed to trauma caused by opposing teeth. As a result of radiographic examination, it was determined that 31 and 41 of the teeth in the anterior region of the mandibula were radiolucent in the posterior direction (Figure 2). The lesional mass was removed under local anesthesia (Ultracain® D-S Forte Ampul, Artikain hidroklorür/Epinefrin hidroklorür, İstanbul, Türkiye) by using a diode laser (Epic, Biolase, Irvine, CA, USA; 810 nm wave length, 10 W power). Vertical and horizontal measurements of the removed mass were taken by periodontal probe and it was found that the mass was 10 mm in length. After the operation, oral rinse including 0.12% chlorhexidine and paracetamol were prescribed. For further histological examination and final diagnosis, the sample was placed into 10% formalin and dispatched to the Department of Pathology, Meram Medical Faculty. During the follow-up sessions in the first and third week after the operation, the healing was normal and no post-operative complications were present. In the one year after the operation, no recurrence was observed (Figure 3).

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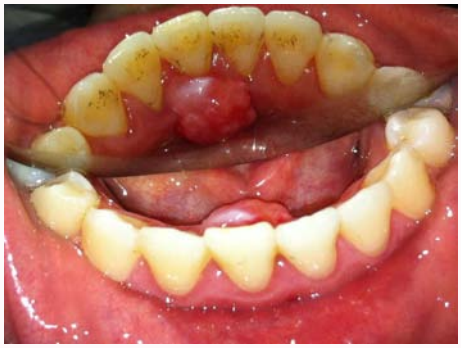

Figure 1: Preoperative image. The lesion area was clear, non-mobile, stemmed and approximately 10 mm in length.

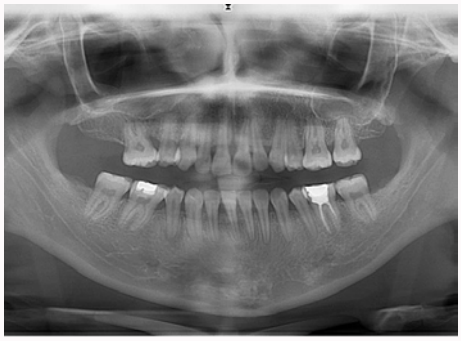

Figure 2: Panoramic view. As a result of radiographic examination, it was determined that 24 and 25 of the teeth in the anterior region of the mandibula were radiolucent in the posterior direction.

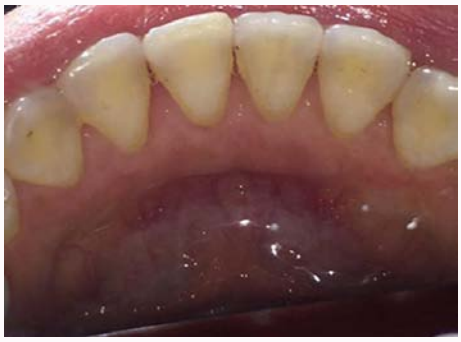

Figure 3: Postoperative 1-year-follow-up image. No recurrence was detected.

Histological examination

The specimen comprised of 1.3 cm × 1.1 cm × 0.7 cm, hard consistency gray-white mass. From the detailed microscopic examinations, mature bone structures under the stratified squamous epithelium and bone barrow margin were observed. No atypia was observed in tissues. Osteoblastic activity was inherent in bone tissue. A great deal of vascular structures showing positive expression with CD34 and intense inflammatory cell infiltration with CD68 expression were found in surrounding tissue. Ki67 index was about 5% (Figure 4).

Discussion

Osseous choristoma is a rarely observed tumor-like lesion in periodontium. So far, only one case related to OC has been reported [8]. The age range of the patients with osseous choristoma is 5 to 73, and mean age is 28.7 [9]. The lesion is more common among women [9,10]. The length of the lesion varies from 0.5 cm to 2 cm and it's mainly localized on posterior third near foramen caecum around circumvallate papillar in tongue. Sometimes, it's observed on middle third and lateral border of the tongue. The lesion may be hard, stemmed or non-stemmed. The clinical results of our case report, such as the size and the macroscopic image of the lesion and the age of the patient, are similar to those of previously reported cases. Osseous choristoma (OC) may include various types of tissues. These are tumor-like masses similar to bone, cartilage and glial tissues and gastric, mucosa and sebaceous glands [11]. The lesions observed in oral cavity commonly include bone [5,12].

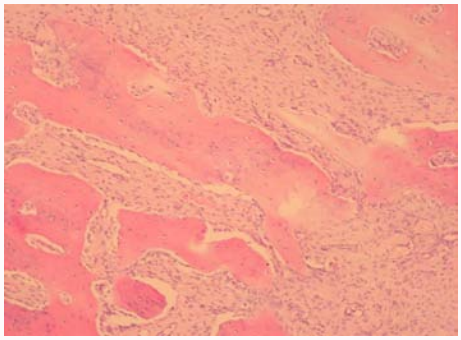

Figure 4: The histological slide from the excisonal biopsy. Mature bone structures under the stratified squamous epithelium and bone barrow margin were observed.

OC is a tumoral composition developed from primordial cells located in the abnormal region [1,2,13]. Most patients are unaware of the lesion and sometimes symptoms like pain, dysphagia, zonesthesia and nausea may be inherent. Although osseous choristoma includes various etiological factors, its origin is still unknown. It was reported that it could be growth or trauma induced. The ossification of branchial ark remains, calcified lymphatic tissues and thyroid gland remains are feasible etiological factors. In our case report, trauma was considered to be blamed since the patient had an orthodontic treatment period. We think that extreme orthodontic forces and occlusion dysfunction might have caused the lesion. Histologically, intraoral choristoma is a clear mass developed by a lamellar bone with haversian canals developed around a tight fibrous ligament or mature cartilage or the mixture of both tissues. Occasionally, hematopoietic or oily bone marrow may be observed in osseous choristoma. Osteoblastic or osteoclast activity is rarely present, however, in our case report osteoblastic activity was present in histological examination. Unilateral intraoral masses may exist in a series of pathologic conditions induced by various reasons. Currently in this case, prior to histological final diagnosis, peripheral ossifying fibroma, heterotopic ossification, and torus were considered as differential diagnosis. Peripheral Ossifying Fibroma (POF) is composed of cellular fibroblastic tissues including one or more mineralized tissue (woven and lamellar), cement like material and dystrophic calcification. The mass is painless, hemorrhagic, and lobular in gingiva or includes a large layer of ulceration in alveolar mucosa. In POF, there's no cartilage or bone marrow generation, however, in OC, submucosal proliferation of normal mature bone or cartilage buried in fibrovascular stroma through pseudo-encapsulation is found [14]. OC treatment option is the removal of the mass by surgical operation. In our case, we preferred to use a diode laser (Epic, Biolase, Irvine, CA, USA; 810 nm wave length, 10 W power). The reasons for diode laser

choice are that less bleeding exists during lesion excision operation and this option provides a better field of view and owns a lower incidence level of post-operative recurrences [15-17]. The lesion reported in our case is a rarely observed type of osseous choristoma and in the case report, the diagnosis, treatment and 1 year-follow-up of the case are presented. Existing studies regarding this rare type of OC are not sufficient. We think that further findings and studies are required.

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