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Peripheral Ossifying Fibroma: Unravelling the Features – A Case Report

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Abstract

The gingiva showcases a varied number of lesions, that are difficult to identify clinically. Peripheral ossifying fibroma is a reactive lesion of such kind. This lesion is predominant in anterior maxilla of females, in the second decade of life. Here is a case report of a 40-year-old female with peripheral ossifying fibroma.

Keywords: Peripheral ossifying fibroma; Epulis fissuratum; Lymphocytes; Central ossifying fibroma; Peripheral cementifying fibroma; Pyogenic granuloma

Introduction

A variety of localized reactive lesions are seen on the gingiva like focal fibrous hyperplasia, pyogenic granuloma, peripheral giant cell granuloma, and peripheral ossifying fibroma [1-3]. Peripheral Ossifying Fibroma (POF) is a non-neoplastic entity, which occurs on the gingiva. This entity is often misunderstood as the soft-tissue counterpart of central ossifying fibroma, however, that is not true. It is reported under a puzzling array of terms, which include peripheral cementifying fibroma, mineralizing ossifying pyogenic granuloma, calcifying, or ossifying fibroid epulis, peripheral fibroma with calcifications, and calcifying fibroblastic granuloma [4]. These lesions may arise as a result of irritants such as trauma, microorganisms, plaque, calculus, faulty restorations, and dental appliances [1,2].

Peripheral ossifying fibroma occurs in the younger age group with a female predisposition. The male: female ratio is 1:7 [5]. It comprises about 9% of all gingival growths and is typically seen on the interdental papilla of the gingiva. This lesion has a predilection for the maxillary arch and most of them occur in the incisor-cuspid region [3]. It presents as a painless mass on the gingiva or alveolar mucosa. It can be sessile or pedunculated. Earlier lesions appear irregular and red and older lesions have a smooth pink surface. Surface ulceration may also be present.

Here, we discuss a case of a middle-aged woman presenting to our institution with a similar-looking lesion that made us sincerely ponder over the diagnosis.

Case Presentation

A 40-year-old female patient reported with a complaint of painless growth on the gingiva in the upper front teeth region for six months. It had progressed gradually to increase in size and attained the present size. The patient did not give any history of trauma. The patient used to wear a fixed partial denture with respect to 22, 23.

Intraoral examination revealed a localized, solitary, sessile swelling on the labial aspect of 21, pale pink in color, roughly spherical in shape and measuring approximately 1.5 cm × 1.5 cm in size, with irregular borders. This growth extended superoinferiorly, from the labial vestibule in relation to 21 and 22, up to the cervical 1/3rd of the crown of 21; and mesiodistally from the mesial aspect of 21, up to the distal aspect of the 22 (post and core). No evident discharge was found.

On palpation, the growth was non- warm, non-tender, with a smooth surface, soft in consistency, non-fluctuant, non- translucent, compressible, non- pulsating and immobile. All the inspectory findings were confirmed.

This lesion was provisionally diagnosed as epulis fissuratum. The clinical differential diagnoses were peripheral giant cell granuloma, peripheral ossifying fibroma, irritational fibroma in relation to 21 and 22.

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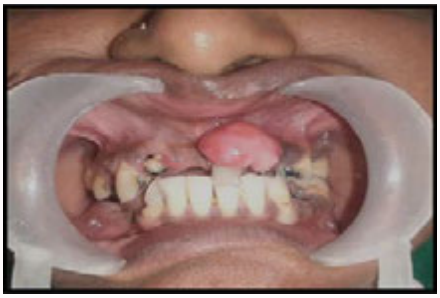

Figure 1: Lesion over the left anterior maxilla.

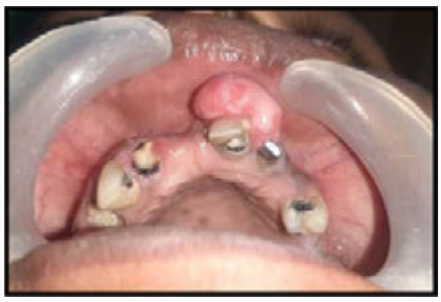

Figure 2: Ventral surface of lesion and teeth associated.

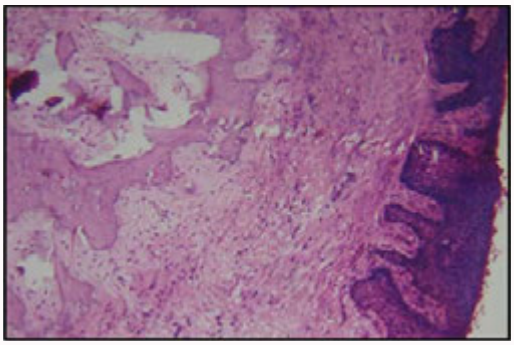

Figure 3: Varied thickness of stratified squamous epithelium, inflammatory cell infiltration in the connective tissue.

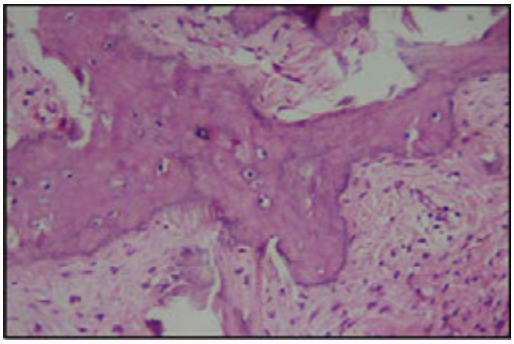

Figure 4: Few dystrophic calcifications of varying sizes and shapes.

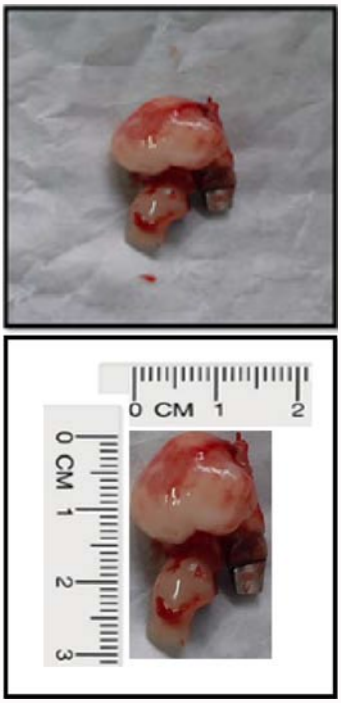

Figure 5: Excised lesion with associated teeth 21, 22.

Radiological investigations — intraoral periapical radiograph of the left maxillary anterior region revealed the presence of root canal treated 21 and post and core restoration with respect to 22 (Figure 1).

Under aseptic conditions, local anesthesia (2% lignocaine with 1:80,000 adrenaline) was administered in the gingival lesion present in relation to 21, 22. The lesion was excised from the normal underlying mucosa. The excised specimen was spherical in shape, measured around 1.5 cm × 1.5 cm in size, pale pink in color, and soft in consistency. The related tooth 21 and 22 were extracted using maxillary anterior extraction forceps. Once the lesion was excised, primary closure of the site was done using 3-0 silk. The patient was recalled for suture removal after 1 week, and was further reviewed periodically for over 6 months (Figure 2).

Histological examination of the specimen showed stratified squamous epithelium of varying thickness at one end and the surface shows evidence of ulceration with a pyogenic membrane at the other end. The underlying connective tissue stroma is collagenous in nature and is infiltrated with chronic type of inflammatory cells chiefly lymphocytes and plasma cells. A few dystrophic calcifications of varying sizes and shapes were also noted. The diagnosis of peripheral ossifying fibroma was thus confirmed (Figures 3-5).

Discussion

Menzel first described the lesion ossifying fibroma in 1872, but its terminology was given by Montgomery in 1927 [6]. Ossifying fibroma is a benign neoplasm that arises mainly in the craniofacial bones, and histologically is composed of proliferating fibroblasts along with interspersed bone or calcified masses. It can be majorly divided into central and peripheral type. The central type arises from the endosteum or the Periodontal Ligament (PDL) that is adjacent to the root apex. In contrast, the peripheral type arises in relation to the soft tissues present over the tooth-bearing areas of the jaws [3,7,8].

Peripheral Ossifying fibroma is a relatively uncommon, solitary, non-neoplastic gingival growth, coined by Eversole and Rovin [1]. The mass is slow growing, nodular, and can either be sessile or pedunculated. Though the etiology and pathogenesis of POF are uncertain, origin from cells of periodontal ligament has been suggested.

Various predisposing factors for the development of POF include trauma to the gingiva, plaque accumulation, calculus, masticatory forces, poor-fitting appliances, mutilated teeth, poor quality or damaged restorations, and ill-fitting crowns [2]. Almost 60% of the lesions occur in the maxilla and mostly occur anterior to the molars. The lesion is most common in the second decade of life with predilection towards females [2]. Clinically, the mass may be pink to red and the surface is frequently but not always ulcerated [7].

In majority of the reported cases, no apparent underlying bone involvement is visible, but superficial erosion of bone is occasionally noted on the roentgenogram [1,9].

Treatment includes local surgical excision and oral prophylaxis. Follow-up is essential because of the high recurrence rate of 8.9% to 20%, perhaps due to incomplete removal or repeated injury [10].

Conclusion

POF has limited growth potential at a slow-growing pace. Many cases progress for a prolonged period before patients seek treatment as it is asymptomatic in nature. Etiopathogenesis of POF remains unclear although the origin from PDL is considered. Complete surgical excision down to the periosteum is the preferred treatment. Due to the high recurrence rate a close post-operative follow-up is required.

POF being a solitary swelling in the oral cavity, is many times clinically misdiagnosed as pyogenic granuloma. Radiological and histopathological examination is mandatory for confirmation of diagnosis.

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