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Peripheral Ossifying Fibroma – A Case Report

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Abstract

Peripheral Ossifying Fibroma (POF) is a reactive, non-neoplastic gingival growth commonly seen in anterior maxilla, typically affecting young females. This case report presents an unusal occurrence of Peripheral Ossifying Fibroma (POF) in mandibular anterior region of a 65 years old female patient. The patient reported with a painless, slow growing gingival mass between the mandibular lateral incisor and canine since 2-3 months. Clinical examination revealed a firm, well demarcated lesion with no associated bone involvement. Radiographic imaging shows no significant underlying osseous changes. Excisional biopsy was performed and histopathological analysis confirmed the diagnosis of Peripheral Ossifying Fibroma, characterised by a fibrous connective tissue matrix with calcification resembling bone and cementum. This case highlights the POF in differential diagnosis of gingival lesion in older patient and emphasizes the need for histopathological evaluation for appropriate diagnosis and management.

Keywords: POF, Gingival growth, Reactive lesion, Osseous changes, Calcification.

Introduction

The term "epulis" include a series of reactive gingival lesions often produced by irritating agents. The diagnosis is usually established on the basis of clinical findings, with few clinical differences noted among the different disorders included under this term; these disorders includes peripheral ossifying fibroma, peripheral fibroma, peripheral giant cell granuloma and pyogenic granuloma.

Other terms used in reference to peripheral ossifying fibroma are peripheral cementifying fibroma, peripheral

fibroma with calcification and calcified fibroblast granuloma[1].

Peripheral ossifying fibroma is a lesion that mainly affects women in 2nd and 3rd decade of life[4]. The lesion are most often found in the gingiva, located anterior to molars and in the maxilla[2]. Clinically POF usually manifests as a well- defined and slow growing gingival mass measuring under 2cm in size and located in interdental papillary region[3]. The base may be sessile or pedunclated, the colour is indentical to that of gingiva and surface may appear ulcerated[4]. The definitive diagnosis is made on histological examination.

However, it has not been established whether peripheral ossifying fibroma is a tumor or represents a proliferation of reactive nature. Recurrence rate of peripheral ossifying fibroma can reach 20%[5]. Surgery is treatment of choice.

Case report

A 65years old female patient with a history of hypertension, currently on antihypertensive medication reported to the department of periodontology in Guru Nanak Dev Dental College, Sunam with chief complaint of swelling in the lower front tooth region persisting from past 2-3 months. Intraoral examination revealed a soft, sessile, reddish-pink, ulcerated mass, similar in colour to the surrounding gingiva. The lesion was attached to the marginal, interdental and attached gingiva on the labial aspect of the teeth 31, 32 and 33 extending from distal surface of mandibular left central incisor to the mesial surface of mandibular left canine. Initially, the growth measures approximately 2X3 cm and exhibit the smooth, shiny surface. On palpation, the lesion was soft coronally and firm apically and it was non tender. Additional findings include halitosis and tooth mobility with respect to 42,41,31,32. (figure 1).

Radiographic examination reveals an angular bone loss with respect to 33 and 34 (figure 2)

After a routine blood examination, a thorough oral prophylaxis was done and under local anaesthesia, pedunclated mass was excised with scalpel (figure 3). Thorough curettage was carried out to prevent recurrence. After controlling bleeding, periodontal dressing was applied, the excised tissue was sent for histopathological examination. The recovery was uneventful after 2 weeks (figure 4)

On macroscopic examination, firm whitish nodular growth was reduced to 1.0X1.0 cm after oral prophylaxis while microscopically, it appears to be a lesion composed of highly cellular fibrous connective tissue stroma containing calcified structure with overlying surface of ortho keratinised stratified squamous epithelium. (figure 5)

Provisional diagnosis of pyogenic granuloma, irritational fibroma was given for confirmation by histopathological examination which was confirmed by peripheral ossifying fibroma.

Figure 1: Preoperative intraoral view showing the lesion on the gingival region

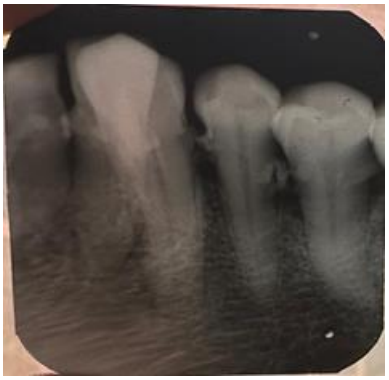

Figure 2: Intraoral periapical radiograph of 33, 34 showing angular bone loss

Figure 3: Incision given with scalpel

Figure 4: 2 week Post-operative healing showing uneventful recovery

Figure 5: Histopathological slide showing basophilic cementum-like material and numerous plump fibroblasts

Treatment

The treatment of choice for peripheral ossifying fibroma begins with elimination of local etiological factors, such as plaque and calculus to reduce inflammation, followed by surgical excision of fibroma, ensuring the removal includes both peripheral and deep margins to minimise the risk of regrowth and achieve complete lesion clearance.

Discussion

Peripheral Ossifying Fibroma (POF) is classified as a non-neoplastic, reactive hyperplastic inflammatory lesion of the gingiva. It consists of a fibrous connective tissue stroma interspersed with mineralized structures such as bone, cementum-like material, and dystrophic calcifications. The lesion is considered to arise from cells of the periodontal ligament, supported by its location in the interdental papilla, presence of oxytalan fibers, and the chronic irritation from factors such as plaque, calculus, micro-organisms, and masticatory forces[4]. POF typically occurs in the second and third decades of life, with a female predilection and a higher occurrence in the maxillary anterior region[4]. However, the presented case deviates from the common age profile, as it involved a 65-year-old female patient in the mandibular anterior region. Clinically, POF appears as a well-demarcated, slow-growing gingival mass, often asymptomatic but may cause discomfort due to interference with mastication or trauma from antagonist teeth. Histopathologically, the lesion shows fibrous overgrowth with hyperplastic epithelium, elongated rete ridges, fibroblastic proliferation, and areas of calcification resembling bone-like ossifications[6]. Radiographic findings may show angular bone loss or radiopaque areas, although not consistently present.

The treatment of choice is complete surgical excision, including removal of the involved periodontal ligament and periosteum, coupled with elimination of local irritants. Thorough curettage and careful surgical technique are critical to minimizing recurrence, which can be as high as 20%[2,7]. Regular postoperative follow-up is important for early detection of any recurrence. This case reinforces the importance of considering POF in the differential diagnosis of gingival lesions, especially in older patients, and highlights the need for histopathological confirmation for accurate diagnosis and effective management.

Conclusion

Timely diagnosis and appropriate management of peripheral ossifying fibroma are essential to prevent

recurrence and preserve periodontal health[8]. A comprehensive approach involving the elimination of local irritants, followed by complete surgical excision with adequate peripheral and deep margin is crucial for successful treatment outcomes. Regular follow up is also important to monitor healing and detect any signs of recurrence early[9].

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