ORIGINAL RESEARCH PAPER
Volume - 13 | Issue - 01 | January - 2024 | PRINT ISSN No. 2277 - 8179 | DOI : 10.36106/ijsr
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

PERIPHERAL OSSIFYING FIBROMA - A CASE REPORT

Dentistry

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ABSTRACT

One of the most frequently encountered lesions in the oral cavity includes localized gingival growths, which are observed to be more reactive than neoplastic. Peripheral ossifying fibroma represents solitary gingival growth of connective tissue origin. In this case report, we discuss a case of 40-year-old female presented in the oral and maxillofacial department with complaint of painless overgrowth in the right anterior region of mandible extending from right lateral incisor to right is premolar region. Clinically, the lesion was asymptomatic, non-tender, sessile and shows cherry reddish colour. Surgical excision of the lesion was done followed by histopathological confirmation.

KEYWORDS

Gingival Overgrowth, Ossifying Fibroma, Connective Tissue Origin

INTRODUCTION

Any neoplasms or tumors are new growths of abnormal tissue in the body. Localized growth of gingiva is major encountered lesion in the oral cavity. Peripheral ossifying fibroma is a benign lesion arising from undifferentiated cells of the periodontal ligament. It occurs in 3.1 per cent of all oral tumors and for 9.6 per cent of all gingival lesions of the oral cavity.[1],[2]

Peripheral ossifying fibroma is a non-neoplastic tumor-like growth of the soft tissue.[3] Though the aetiopathogenesis is unknown, an origin from cells of the periodontal ligament has been advocated.[4] It occurs in any age group but predominantly it tends to occur in the 2nd and 3rd decades of life.[5] Females are more commonly affected than males. Premolar and molar areas are the most common sites in the mandible region. In the maxilla, the post maxilla is most affected. Peripheral ossifying fibroma is slow slow-growing modular mass that is either pedunculated or sessile.[6] In some cases, tooth migration occurs with the destruction of interdental bone.[7] Only clinical findings are not enough for a diagnosis of peripheral ossifying fibroma, because there are some other lesions such as peripheral giant cell granuloma and pyogenic granuloma have similar clinical appearance or clinical courses. Therefore, histopathological examination and biopsy of the lesion are needed for definitive diagnosis. In the early stages of lesional growth, POF shows a mild defect in the adjacent alveolar bone. Radiographic material may be in POF, sometimes foci of radiopaque material may be seen, particularly in larger lesions.[8] Surgical excision of POF including the periodontal ligament and periosteum at the base of the lesion should be preferred to reduce the chance of recurrence. A solitary gingival growth occurs in the peripheral ossifying fibroma. In this report, we discuss a case of POF, affecting the mandibular gingiva of a 40-year-old female.

Case Study

A 40-year-old female presented in the oral and maxillofacial department of the dental college and hospital with the complaint of painless overgrowth present in the right anterior region of the mandible, which started as a small nodule approximately 6 months ago and gradually increased in size with time. There was no related history of bleeding or pain. No history of any medication at that time and no significant previous medical history.

Figure 1: clinical presentation of the lesion with migration of anterior teeth

On intraoral examination, approx. 4x5 cm cauliflower-like mass, sessile, non-tender, cherry reddish growth present on the interdental gingiva in relation to the mandibular right lateral incisor to first premolar region (fig. 1). The lesion was extending from the mesial of the right lateral incisor to the mesial of the right first premolar region. It raised to the level of the occlusal surface, causing occlusal interference. It brings about pathologic proclination of the maxillary right central incisor because overgrowth occurs up to the level of the occlusal surface. Pathological migration of mandibular canine and 1st premolar was occurring as mesial and buccal migration. Radiographically, there was angular bone loss in relation to the mandibular right incisor and premolar region (fig. 2).

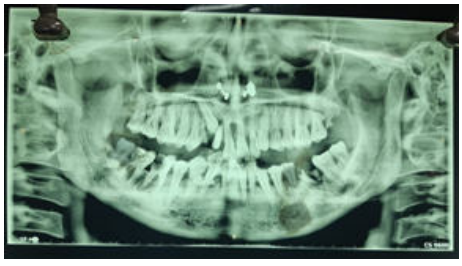

Figure 2: radiographic view showing angular bone loss

The differential diagnosis included peripheral giant cell granuloma, pyogenic granuloma, and peripheral ossifying fibroma. Based on clinical and radiographic findings, the proximal diagnosis of peripheral ossifying fibroma was conducted. The treatment plan included patient education and motivation for oral hygiene instructions, scaling and root planning, revaluation, and surgical excision of the lesion under local anesthesia. Scaling and root planning were carried out to eliminate local etiological factors after 1 week of scaling and root planning, a revaluation and surgical excision were planned.

Surgical excision down to the periosteum was performed and the periodontal dressing was placed. Post-operative instructions were given to the patient and was prescribed with analgesic every 4-6 hours as needed for pain and 0.2 percent chlorohexidine gluconate twice a day for one week. The patient was recalled after one week for follow-up. The excised tissue mass was placed in 10 per cent formalin and sent for the histopathological examination.

Figure 3: excised lesion

Microscopically, the specimen consisted of Para keratinized stratified squamous epithelium with the anastomosing rete ridges and fibrous connective tissue containing irregularly shaped trabeculae of bone and numerous plump fibroblasts. In the histopathological examination, POF was diagnosed.

After one week, the patient visited for periodontal dressing removal and follow-up. Recovery was occurred with satisfactory healing. The patient is on follow-up postoperatively for at least six months.

DISCUSSION

The exclusive occurrence of POF in the interdental papilla and, the presence of oxytalan fibres within the mineralized matrix is the reason for considering periodontal ligament origin for POF.[4]

The proliferation of fibrous CT is producing effects on gingival irritation, and gingival injury as a foreign body in the gingival sulcus. Metaplasia of the CT occurs due to chronic irritation of the periosteal and periodontal membrane and causes dystrophic calcification.

Almost 2 to 3rd of all cases occur in females hormonal imbalance may play a role, given the higher incidence of POF in females, with increasing occurrence in the 2nd decade and decreasing after occurrence in the 2nd decade and decreasing after the 3rd decade.[1] The size of the POF is ranging from 0.4 to 4.0 cm.[9]

Histologically, when bone and cementum-like tissues are noticed the lesions have been referred to as cemento ossifying fibroma.[10] In addition, in H and E staining it is complicated to distinguish histologically between cementum and bone in the form of trabecular of woven or lamellar bone (mineralized products), and dystrophic calcification is noticed.

Radiopaque foci of calcifications have been noticed in the central area of the lesion but not all lesion shows radiographic calcifications.[9]

During the microscopic examination following features are observed 1) stratified squamous surface epithelium 2) fibrous CT with fibroblasts 3) endothelial proliferation 4) Dystrophic calcifications 5) acute or chronic inflammatory cells. [4],[9] furthermore, histopathologically, lamellar or women osteoid patterns predominate the term POF is regarded as more appropriate.

Many treatment modalities include surgical excision by scalpel, laser, or electrosurgery.[11] surgical excision including the involvement periodontal ligament and periosteum is the better treatment [7] which was performed in this case.

CONCLUSIONS

Peripheral Ossifying Fibroma is a non-neoplastic slowly progressive lesion with limited growth. Complete surgical excision down to the periosteum is the preferred treatment for the POF and close post-operative follow-up is required.

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