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Peripheral Ossifying Fibroma: A Case Report

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ABSTRACT: One of the most common diseases in the oral cavity that are thought to be reactive rather than malignant are localized gingival growths. Only histopathological analysis can determine the identity of these types of lesions because their appearance is quite similar, making clinical identification challenging. These lesions include peripheral giant cell granuloma, pyogenic granuloma, irritant fibroma, and peripheral ossifying fibroma (POF). One of these lesions that doesn't happen very often is the POF. This case report presents a 33-year-old male with gingival overgrowth between the mandibular left premolar and molar region. The lesion was surgically excised followed by histopathologic confirmation with emphasis on the clinical aspect.

KEYWORDS: Peripheral ossifying fibroma (POF)

I. INTRODUCTION

In the course of daily practice, gingival enlargement, particularly those that belong to the reactive group, is frequently observed in the oral cavity. These lesions include peripheral giant cell granuloma, pyogenic granuloma, irritant fibroma, and peripheral ossifying fibroma (POF). Among these lesions, the POF, is a rarely occurring gingival lesion, which is localized, reactive, non-neoplastic tumor-like development of the soft tissue that mainly emerges from the interdental papilla, and it makes up about 9% of all gingival growths (1). The intricacy of POF's location, which is typically found at interdental locations, makes it difficult to access during surgical manipulation and contributes to incomplete removal of the lesion, failure to remove local irritants, and its recurrence (2).

II. CASE PRESENTATION

A 33-year-old male patient reported with the complain of swelling in the left lower posterior region of the jaw, which bleeds while brushing and relieves by its own. It was first noticed 8 months back. It was associated with pus discharge which was relieved by antibiotics. Her medical history was non-significant and there were no habits associated.

Intraoral examination revealed an approximately 12 mm × 10 mm single pedunculated pale pink swelling which is tender, soft to firm in consistency and had a smooth surface. On palpation it was compressible and bleeding was noticed. The growth was present on the lingual aspect of attached gingiva in relation to the mandibular left second premolar –first molar region [Figures1 and 2]. The lesion was extending towards the occlusal surface of premolar and first molar. Radiographically, there was mild interdental bone loss in relation to mandibular left premolar and molar [Figure 3].

Fig. 1.Pre operative

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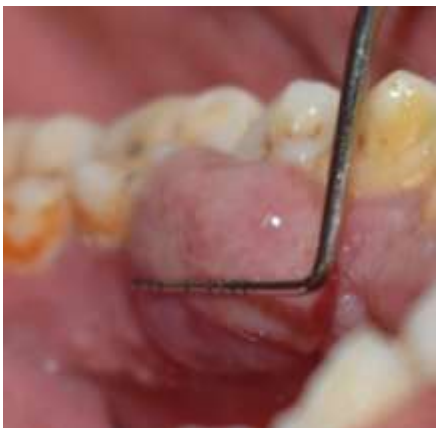

Fig. 2. Pre operative

Fig. 3. Pre-operative Radiograph

The differential diagnosis included irritation fibroma, pyogenic granuloma and peripheral giant cell granuloma and peripheral ossifying fibroma

The periodontal therapy included scaling and root planning, re-evaluation, and surgical removal of the lesion under local anaesthesia. It also included patient education and motivation for oral hygiene. scaling and root planning were done to remove the local etiological factors. After re-evaluation, surgical excision was carried out under local anaesthesia [Figure 4] and the lesion was enucleated and sent for histopathological examination. [Figure 5].Profused bleeding was observed in the surgical site and was controlled by using Abgel with Tranexamic acid followed by electrocoagulation and application of bone wax and cola plug[Figure 6]. Periodontal dressing was placed. Following surgery, the patient was given post-operative instructions as well as analgesic (tablet Ibuprofen-400 mg tds every 4-6 h as needed for pain) and antibacterial rinse (0.2% chlorhexidine gluconate twice-daily for 1 week) prescriptions. After a week, he was summoned back for follow-up. The removed tissue was put in 10% neutral buffered formalin and sent for histopathological analysis.

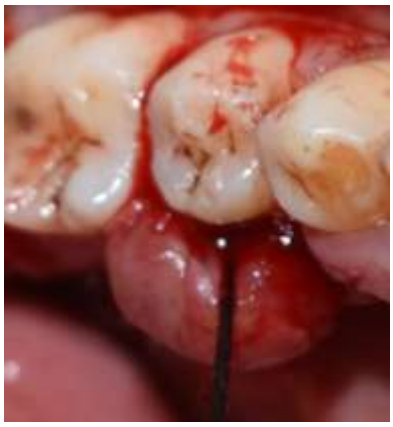

Fig.4.Excision of the lesion

Fig.5.Excised tissue

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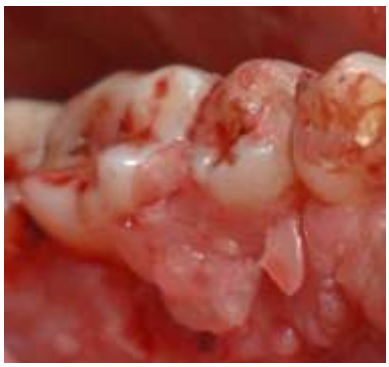


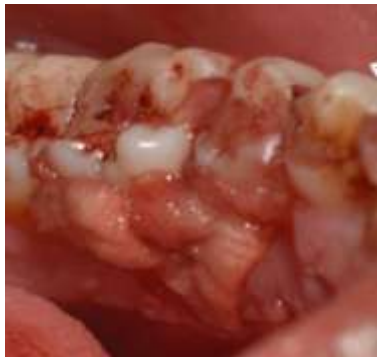
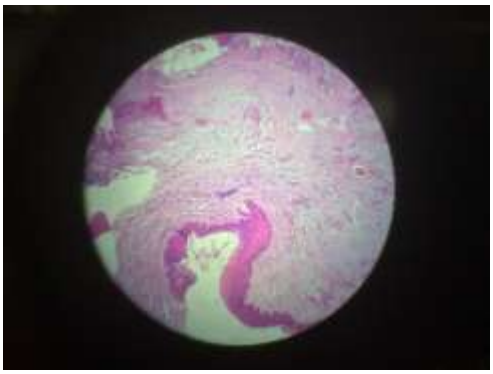


Fig.6.Bleeding controlled by hemostatic agents

Histologically, the specimen showed hyperplastic parakeratinized stratified squamous epithelium associated with fibrovascular connective tissue. The epithelium exhibits areas of atrophy and ulceration covered by fibropurulent membrane. The connective tissue is moderate to densely collagenous and shows numerous endothelium lined vascular spaces of varying sizes of RBCs. Diffuse chronic inflammatory cell infiltrate, comprising of lymphocytes and plasma cells are noted within the connective tissue. Foci of basophilic calcification is also seen [Figure 7].



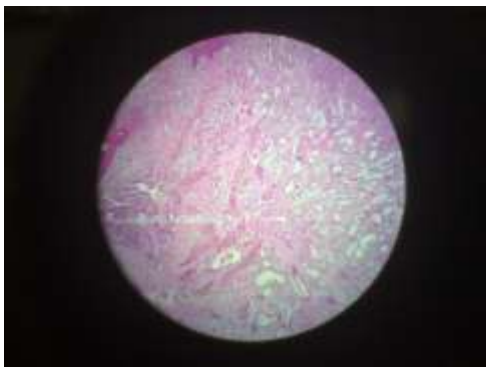


Fig.7. Histopathological appearance

At 1week post-operative visit, removal of periodontal dressing and follow-up examination was done [Figure 8]. Recovery was uneventful with a satisfactory healing. Patient was on regular follow-up at 6 month post-operative without any recurrence.

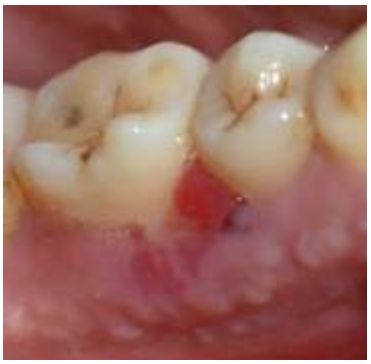


Fig .8 One-week post operative

III. DISCUSSION

The periodontal ligament or connective tissue is the primary source of gingival fibromas. Ossifying fibroma is a benign tumour that primarily affects the bones of the skull and face. Histologically, the tumour is composed of proliferating fibroblasts with interspersed bone or calcified masses. There are two main categories of osseous fibromas: central and peripheral. The peripheral kind of ossifying fibroma develops on the soft tissues underlying the alveolar process, while the central type develops on the endosteum or periodontal ligament (PDL) next to the root apex and grows from the medullary cavity of the bone (3). POF is a single, sessile or pedunculated, slow-growing nodular tumour. Gardner in 1982 coined the term Peripheral Ossifying Fibroma and described it as a lesion which is reactive in nature and is not the extra osseous counterpart of a Central Ossifying Fibroma of the maxilla and mandible (4).

Theoretically, POF may be misdiagnosed as a pyogenic granuloma since it initially manifests as ulcerated nodules with modest calcification, according to Buchner and Hansen (5). Although the etiopathogenesis of POF is unknown, it has been hypothesised that periodontal ligament cells may be its source. Considerable amounts of POF in the gingival interdental papilla, close proximity of gingiva to the periodontal ligament, the presence of oxytalan fibres in the mineralized matrix of some lesions, and the fibrocellular response in the periodontal ligament are some of the factors supporting this theory. A foreign body in the gingival sulcus, subgingival calculus, chronic gingival injury, or chronic irritation of the gingiva may be to blame for the excessive proliferation of mature fibrous connective tissue in POF (3,6).

Histologically, the lesions are known as cemento ossifying fibromas when bone and cementum-like tissues are seen (7). The phrase "cemento ossifying" has been criticized as being out of date and incorrect from a scientific standpoint (8) Furthermore, the distinction between cementum and bone cannot be made histologically using H and E staining. It is possible to see mineralized products such as cement-like material, trabeculae of woven and/or lamellar bone, and dystrophic calcification. In the present case, histologically presence of numerous endothelium lined vascular spaces of varying sizes filled with RBCs was noted, which resulted in profused bleeding while tissue excision.

Different POF radiographic characteristics may exist. However, not all lesions exhibit radiographic calcifications. It has been reported that radiopaque foci of calcifications are dispersed throughout the center area of the lesion (9). Most of the time, there won't be any noticeable changes on the radiograph, but depending on the degree of mineralization, there might be some radiodensity.

Treatment includes local surgical excision and oral prophylaxis (10). Follow-up is essential because of the recurrence rates. Recurrence is due to incomplete excision and/or due to persistence of local factors

IV. CONCLUSION

Peripheral ossifying fibroma is a slowly progressing reactive lesion. Clinically difficult to diagnose, so histopathologic confirmation is mandatory. Complete surgical excision along with deep curettage is the treatment of choice to minimize the chances of recurrence. Close post-operative follow-up is required.

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