

Peripheral Ossifying Fibroma with Extensive Fibrous Hyperplasia and Mature Bone Formation: A Case Report.

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Abstract: Gingival overgrowths, either localised or generalised are one of the commonly found lesions of the oral cavity. Solitary gingival overgrowths such as irritational fibroma and peripheral ossifying fibroma are considered to be reactive rather than neoplastic lesions. Most of these lesions might present with similar clinical features. Hence, differentiation and final diagnosis of these lesions with clinical presentation alone might be difficult if not impossible. Histo-pathological analysis might give us a final picture leading to the final diagnosis. This is important to treat the condition appropriately and prevent recurrence. Peripheral ossifying fibroma is one such lesion which is reported to have high recurrence rate. In this case report, we present the diagnosis & management of an unusual case of massive peripheral ossifying fibroma of anterior maxilla with extensive fibrous hyperplasia and mature bone formation.

Keywords: Peripheral ossifying fibroma, peripheral cementifying fibroma, solitary gingival overgrowth, gingival enlargement, fibro-osseous lesion

I. Introduction

Fibromas are benign tumours composed of fibrous connective tissue. The fibroma, also referred to as “irritation fibroma” is by far the most common fibrous reactive lesion of the oral cavity. The other most common reactive lesions of oral cavity include pyogenic granuloma, peripheral giant cell granuloma and peripheral ossifying fibroma.¹ It can occur at any site in the oral cavity and is most commonly seen on the buccal mucosa at the level of occlusal plane followed by gingiva.²

Peripheral ossifying fibroma has been referred in literature by several other names such as peripheral cementifying fibroma, cemento-ossifying fibroma, peripheral fibroma with osteogenesis, peripheral odontogenic fibroma, etc.³ The terminology given is controversial, as the term “ossifying fibroma” indicates its origin from bone whereas peripheral ossifying fibroma has been hypothesised to arise from periodontium. It is commonly found arising from the interdental papilla in maxillary anterior region and has shown a female predilection.⁴ It can occur at any age, but peak incidence is found between 20 to 30 years of age.⁵

II. Case report

A 45 year old female patient reported to the Department of Periodontics, with a chief complaint of overgrowth of the gums in the upper front teeth region on the left side. History of the present illness revealed that the patient first noticed the swelling 6 months back and it had started as a small painless overgrowth of gingiva in the region of canine and first premolar. There was no history of trauma or injury to the region.

Extra-oral examination revealed slight bulging of the upper lip corresponding to the region of canine and premolar on the left side and incompetent lips. On intra-oral examination, the lesion measured 2.0x1.5x1.0 cms in size and was pale pink in color (Figure 1a). The surface of the lesion was lobulated with no ulcerations. On palpation, the lesion was firm in consistency. Significant amount of local deposits were observed in this region. A root stump was present in respect to first premolar. An intra-oral periapical radiograph (IOPAR) with respect to the region of concern and an orthopantomograph (OPG) was advised, which revealed no significant findings. Considering the above clinical and radiographic findings, a provisional diagnosis of “Irritational fibroma” was made. Other lesions such as peripheral ossifying fibroma, peripheral odontogenic fibroma, and peripheral giant cell granuloma share similar clinical features, hence were considered under differential diagnosis.

Oral hygiene instructions were given and a thorough oral prophylaxis was done to eliminate the local deposits. Use of chlorhexidine mouthwash (0.2%) was advised twice daily. Complete hemogram was advised

and the reports obtained showed values within the normal range. Clinical evaluation of the soft tissue response to oral prophylaxis was conducted 2 weeks postoperatively. As there were no signs of persisting inflammation, the excision of the gingival overgrowth was carried out. Surgical excision of the lesion was performed using a no. 15 Bard Parker (BP) knife with no. 15 blade. The complete lesion was successfully excised from its base (Figure 1b). This left a raw, exposed connective tissue at the site and revealed the underlying calculus deposits on the buccal surface of canine (Figure 1c). The calculus deposits were removed and a pressure pack was applied at the site for 5 minutes to control bleeding, followed by placement of periodontal dressing. Post-operative instructions were given and analgesics (Maxrel- Diclofenac-50 mg + Paracetamol-500 mg) were prescribed thrice a day for three days.

The histological sections were routinely processed and stained with Hematoxylin and Eosin stains. Microscopy of the soft tissue specimen revealed the presence of parakeratinized stratified squamous epithelium with long, thin rete ridges (Figure 2a). The connective tissue was dense & fibrous where the fibres were arranged in the form of bundles with few constricted blood vessels (Figure 2c). Mature bone with osteocytes within the lacunae along with peripheral osteoblastic rimming and focal chronic inflammatory cells consisting of lymphocytes and plasma cells were evident (Figure 2b). Correlating with clinical features, the above histopathological features were suggestive of a **Peripheral Ossifying Fibroma**. During the recall visit 1 week after the surgical procedure, a satisfactory healing of the surgical site was observed. As the connective tissue formation takes longer time, in the next visit 3 weeks following the surgical excision, complete healing of the site was observed (Figure 1d). The present case was followed up for 12 months and no recurrence has yet been evident.

III. Discussion

Peripheral ossifying fibroma is a gingival growth usually arising from the interdental papilla.⁶ In the present case, abundance of local irritants were present which were assumed to have caused the fibrous overgrowth of gingiva. Hence, the treatment initially included the removal of local irritants, followed by surgical excision of the lesion. The patient was followed up for 6 months and no signs of recurrence were observed suggesting a possible role of plaque and calculus in initiating this gingival overgrowth. It has been suggested that the peripheral ossifying fibroma represents a separate clinical entity rather than a transitional form of pyogenic granuloma, peripheral giant cell granuloma or irritation fibroma.⁷

Though, the etiopathogenesis of peripheral ossifying fibroma is uncertain, an origin from the cells of the periodontal ligament has been suggested by Kumar et al, (2006).⁴ Chronic irritation causes metaplasia of the connective tissue which initiates formation of bone or dystrophic calcification. The mineralized component of peripheral ossifying fibroma is said to vary from 23% to 75%.⁸

The rate of recurrence has been reported to vary from 8.9% to 20%.⁹ Recurrence could occur due to incomplete initial removal, repeated injury or persistence of local irritants. The average time interval for the first recurrence is said to be 12 months (Das & Azhar, 2009).¹⁰ Hence, thorough removal of local irritants, careful & complete excision of the lesion and long term follow up is recommended.

IV. Conclusion

Several lesions occur in the oral cavity with similar clinical presentation such as irritational fibroma, peripheral ossifying fibroma etc. It is important to differentiate between these lesions and also deduce the cause of the enlargement to be able to treat and prevent the recurrence of the lesion. Long term follow-up is recommended for peripheral ossifying fibroma as the recurrence of the lesion is said to be common.

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Figure Legends:

- [11]. Figure 1: Clinical pre-operative and post-operative pictures of the case report
- [12]. Figure 1a: Pre-operative intra-oral photograph of the gingival overgrowth.
- [13]. Figure 1b: Immediate post-operative photograph of the excised lesion
- [14]. Figure 1c: Immediate post-operative photograph of the surgical site
- [15]. Figure 1d: Post-operative healing of the surgical site following 3 weeks.
- [16]. Figure 2: Histopathological findings of the biopsied specimen
- [17]. Figure 2a: Parakeratinised stratified squamous epithelium with elongated rete pegs
- [18]. Figure 2b: Connective tissue showing mature bone formation
- [19]. Figure 2c: Numerous fibroblasts and bundles of collagen fibers within connective tissue matrix

