



Gingival Fibroma: Report of two cases with different treatment modalities

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General Note



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ABSTRACT

Fibrous gingival overgrowths are the most commonly observed soft tissues conditions. Fibroma commonly term as irritational fibroma which histologically may present with many added features forming a wide range of differential diagnosis. This article addresses the diagnosis, histological features of a case of irritational fibroma, treated with different modalities. Early detection,

removal of the irritations and lesion management is of utmost importance. To conclude, electrocautery and scalpel used in the present cases were highly effective, safe, relatively simple and resulted into predictable outcome.

Keyword- Gingival overgrowth, Irritational fibroma, Fibroma, Gingival

1. INTRODUCTION

A small group of localized overgrowth may represent reactive/inflammatory hyperplasia. Fibrous gingival overgrowths are the most commonly observed soft tissues conditions. Fibroma commonly term as irritational fibroma which histologically may present with many added features and forming a wide range of differential diagnosis (Agrawal, 2015; Raizada et al., 2016). Irritational fibroma can lead to migration of teeth with or without interdental bone loss. The etiological factors for the occurrence of these lesions are irritants like plaque, calculus, overhanging margins & faulty restorations. Extension of lesion may adversely affect speech, mastication, tooth eruption, esthetics & causes difficulty in maintaining oral hygiene care (Arora et al., 2016; Lanjekar et al., 2016).

Appropriate protocol for the treatment depends on accurate diagnosis of the cause of lesion. Such cases should be treated in amethodical manner, involving a detailed medical history. Even a slight excess of gingival tissue is required to be excised to prevent the recurrence of the lesion. However, for the achievement of predictable outcome, it is utmost important to create patient awareness and motivation.

2. CASE REPORT -1

A 60 years old male patient reported on 9th October 2019 to the "Department of Periodontics" with the chief complaint of growth seen on gums in the upper front region of jaw since 8 months. Patient was apparently all right 8 months back, when he noticed a small growth in the maxillary anterior region of teeth. The growth was gradual in onset, slow in progression & further it increased to a present size of 15 mm x 10 mm (Figure 1). It was not associated with bleeding and pain with no break in the continuity of surface epithelium. The patient was medically fit as there was no history of any systemic disease.

On intraoral examination, a 15mm x 10 mm roughly solitary, isolated gingival growth was observed in the interproximal region extending mesio-distally from the mesial line angle of 11 to the distal line angle of 12 on buccal surface of teeth (Figure 2). The growth was pink in color, firm, well defined, mobile, pedunculated, non-pulsating & smooth surfaced. Hard tissue assessment showed mild crowding in the maxillary anterior region. Generalized probing pocket depth was 3-5mm and clinical attachment loss 4-6mm was found with plaque and calculus deposition.

Radiographic features

IOPA showed interproximal bone loss up to middle one-third of the root of 11, 12 (Figure 3).

Investigations

Blood investigations such as hemogram, bleeding and clotting time were observed to be within normal physiological limits.

Provisional diagnosis

Generalized mild to moderate chronic periodontitis with Localized over growth suggestive of Fibroma

Treatment

Patients were explained about the growth and the proposed treatment plan. Informed consent was taken prior to treatment from patients. Thorough scaling and root planing was done and oral hygiene instructions were given to the patients. Proper brushing technique was demonstrated to the patients (Modified Bass Technique). Then surgical excision of the growth which was planned and performed under local anesthesia (Lignox 2% with Adrenaline-1:80000) (Reddy et al., 2019). Electrocautery was used to excise the growth. Silk thread was used to tie the base of the lesion (Figure 4). Loop electrode was used for excision whereas a ball electrode was used for coagulation (Figure 5). Then cutting tip was placed to cut precisely at the base. Advantage of using electrocautery is that, it avoids bleeding and avoid postoperative suturing (Figure 6). Postoperatively, analgesics were prescribed as and when required in the form of Ibuprofen 400 mg. To assess histopathological features, the excised tissue was sent for pathological examination (Figure 7).

3. CASE REPORT -2

A 30 year old female patient reported on 19th October 2019 to the "Department of Periodontics" with the chief complaint of growth in the gums in the upper front region of jaw since last 1 year. She noticed a small growth in the maxillary anterior teeth region. The growth was gradual in onset, slowly progressing and with time had increased to present size 8mm x 14 mm (Figure 10). No symptoms of bleeding and pain were observed. The patient was medically fit as there was no history of any systemic disease.

On intraoral examination, a 8 mm x 14 mm roughly solitary isolated, palatal extended gingival growth was observed at interproximal area of 11 and 21 region (Figure 11). The growth was pink in color with firm, well defined borders & mobile, pedunculated, non-pulsating, smooth surface. Soft tissue examination revealed generalized marginal and papillary inflammation with slight bleeding on probing. Hard tissue examination revealed midline diastema, migration seen with adjacent teeth and supra-eruption of 41 teeth.

Radiographic features

IOPA showed no signs of alveolar bone loss

Investigations

Blood investigations such as hemogram, bleeding and clotting time were observed to be within normal physiological limits.



Figure 1: Preoperative view



Figure 2: Growth extension



Figure 3: Preoperative radiograph



Figure 4: Thread tie at the base of growth



Figure 5: Surgical excision



Figure 6: After excision



Figure 7: Excised tissue



Figure 8: Postoperative view

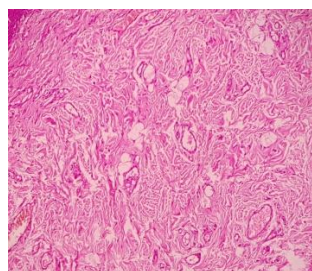


Figure 9: Histological view



Figure 10: Preoperative view



Figure 11: Growth extension



Figure 12: Surgical excision



Figure 13: Sutures placed



Figure 14: Excised tissue



Figure 15: Postoperative view

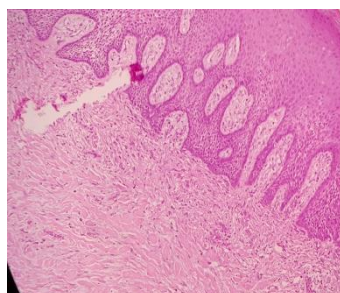


Figure 16: Histological view

Provisional diagnosis

Generalized chronic gingivitis with Localized over growth suggestive of Fibroma

Treatment

Patients were explained about the growth and the proposed treatment plan. Informed consent was taken prior to treatment from patients. Scaling and coronoplasty was done with 41 because of supraerupted tooth and to reduce the constant trauma to the lesion. Oral Hygiene instructions were given to the patients with proper brushing technique. Then surgical excision of the growth was planned and performed under local anesthesia (Lignox 2% with Adrenaline- 1:80000).

Conventional surgical procedure with scalpel blade no.15 was carried out to excise the growth (Figure 12). Silk thread was used to tie the base of the lesion and horizontal incision was given to excise it. After excision, crevicular incisions were given to reflect the flap. After reflection, proper debridement was done. After achieving hemostasis, simple interrupted sutures were given (Figure 13). Following sutures periodontal dressing was placed and antibiotic (Amoxycycline 500 mg T.I.D) and analgesic (Ibuprofen 400 mg BD) were prescribed. The excised tissue (Figure) was sent for histo-pathological examination (Figure 14).

Post-operative evaluation

At 1week post-operatively, healing was uneventful in both the patients. Patients were kept on periodontal maintenance therapy & oral hygiene instructions were repeated. No recurrence of the lesion was observed at 6 months follow up visit in both the cases (Figure 8 & 15).

Histological Features

Histopathological criteria are needed to distinguish the similar features. Thus, histopathological investigations for both the cases were carried out. Under low power view, H & E stained lesional tissue showed overlying stratified squamous epithelium and underlying connective tissue stroma. Epithelium of varying thickness was appreciated. Connective tissue comprised of bundles of collagen fibers and fibroblast. Endothelium lined blood vessels with intravasated RBC's along with chronic inflammatory cell infiltrate was seen. Under high power view, all the findings of low power view were confirmed. Chronic inflammatory cell infiltrate chiefly comprising of lymphocytes were observed (Figure 9 & 16).

Based on clinico-radiographic features correlating with histopathological features and investigations, Irritational fibroma as a final diagnosis was confirmed for both the cases.

3. DISCUSSION

A fibroma may occur at any oral site but it is seen most often on the buccal mucosa along the plane of occlusion & sometimes on the gingiva. Fibroma is round to ovoid in shape, smooth-surfaced, firm, sessile or pedunculated mass with not associated with pain. The diameter ranges from 1 to 2 cm in size. On continuous trauma, the surface of the lesions becomes hyperkeratotic or ulcerated. Fibromas are most often observed in adults, but they may occur in subjects of any age group & either sex (Kolte et al., 2010). Fibroma represents similarity with peripheral ossifying fibroma, pyogenic granuloma or peripheral giant cell granuloma due to short of differentiating characteristics. It becomes complex on the basis of clinical characteristics only. Based on the history, clinical and radiographic features a differential diagnosis of Fibroma includes pyogenic granuloma (PG), Peripheral ossifying fibroma (POF), metastatic cancer, hyperplastic gingival inflammation, hemangioma (Priyanka et al., 2018; Dhamgaye & Bhaskaran, 2017; Gadbail et al., 2017). Most often observed in adults is pyogenic granuloma, commonly seen in pregnant women. Peripheral ossifying fibroma is a non-neoplastic enlargement of the gingival tissue & reported to grow more than 6 cm & less than 1.5 cm diameter in size. Metastatic tumors of the oral region are uncommon but if it occurs then attached gingiva found to be commonly affected area followed by the tongue. Hemangiomas are developmental disorders, but small lesions may be clinically indistinguishable.

Histologic evaluation of the lesion helps to rule out other benign or malignant tumors similar in fibroma features (Arya et al., 2015) Barker and Lucas (1967) found that irritation fibromas expressed two patterns of collagen arrangements depends upon the site & the amount of irritation experienced by the lesion, namely (a) radiating pattern and (b) circular pattern. Thus, the authors stated that, immobile areas like palate with more degree of trauma showed radiating patterns whereas the flexible areas (like cheeks) with lesser trauma causes circular pattern.(Barker & Lucas, 1967) These pattern were not observed in true fibromas (Gupta et al., 2015). Traditional treatment option includes excision through scalpel considered as conventional method. Other treatment methods are the use of electrocautery, Nd: YAG laser, Diode laser, and cryosurgery. However, variation observed in their hemostasis, healing time, instrument costing & width of the cut. In the present study, electrocautery was used because it provides clean tissue separation with no bleeding. Prabhakar, 2018 in their study stated that benefits of electrocautery are bloodless surgical field, minimal swelling, scarring and coagulation, no need for suturing. Also scalpel was used in other case because it gives precise cut with no side effects. Bashetty et al., 2009 stated that scalpel is easy to use, cost effective & provides faster healing.

According to Nixon et al., 1975 electrocautery results into delayed wound healing as compared to scalpel method. Electrosurgical wound observed more tissue destruction and greater inflammatory response. However, histopathological findings showed same osteoblasts viability with no increase in osteoclasts indicating no occurrence of bone resorption in both the methods.

4. CONCLUSION

Focal fibrous overgrowth occurrence related with chronic stimuli considered as non-neoplastic growths. Early detection, removal of the irritations and lesion management is of utmost importance. Many cases progress for long periods before the patient seeks treatment for them as they are asymptomatic. However, individual wants treatment when lesion becomes noticeable. To conclude, electrocautery and scalpel used in the present cases were highly effective, safe, relatively simple and resulted into predictable outcome.

Informed Consent

Informed consent was obtained from all individual participants included in the study. Additional informed consent was obtained from all individual participants for whom identifying information is included in this manuscript.

Conflicting Interest

The authors have no conflict of interest

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