Quest Journals
Journal of Medical and Dental Science Research
Volume 10~ Issue 3 (2023) pp: 16-23
ISSN(Online) : 2394-076X ISSN (Print):2394-0751
www.questjournals.org

Research Paper

Management of Fibroepithelial Hyperplasia Using Three Different Treatment Modalities: A Report of 3 Cases

Dharitri Sharma[1], Dikshita Medhi[2], Chandan Kumar[3], Purushottam Kumar[4]
[1] *Dr. Dharitri Sharma, Post graduate student, Department of Periodontics,Kothiwal dental college & research center, Moradabad, India*
[2] *Dr. DikshitaMedhi, Post graduate student, Department of Periodontics,Kothiwal dental college & research center, Moradabad, India*
[3] *Dr. Chandan Kumar, Post graduate student, Department of Periodontics,Kothiwal dental college & research center, Moradabad, India*
[4] *Purushottam Kumar, Post graduate student,Department of Periodontics,Kothiwal dental college & research center, Moradabad, India*
Corresponding author: Dr. Dharitri Sharma
Post graduate student, Department of Periodontics, Kothiwal dental college & research center,Moradabad, Uttar Pradesh, Postal Code: 244001, India

ABSTRACT
Introduction: *Fibromas are considered the most common benign soft tissue growth in the oral cavity arising from the gingival connective tissue or from the periodontal ligament. Surgical excision along with the removal of causative irritants remains the treatment of choice.* ***Case discussion****: Three patients reported with a chief complaint of overgrowth in the mouth. On clinical examination, the overgrowths were diagnosed as Fibromas. After thorough scaling and root planning, the overgrowths were excised and sent for histopathological examinations.* ***Conclusion:*** *Continuous exposure to any stimuli can lead to neoplastic condition. Excision is the treatment of choice along with elimination of the etiological factors*
Key Words: *Fibroma, fibroepithelial hyperplasia, electrosurgical unit, laser, scalpel*

Received 22 Feb., 2023; Revised 03 Mar., 2023; Accepted 05 Mar., 2023 © The author(s) 2023. Published with open access at www.questjournals.org

I. Introduction

Fibromas are considered the most common benign soft tissue growth in the oral cavity.[1] They may arise from the gingivalconnective tissue or from the periodontal ligament.[2] It is stated that fibroepithelial hyperplasiais a better term to 'fibroma' which wrongly implies to a neoplastic lesion.[3] The term 'Fibro epithelial hyperplasia' was given by Deley et alin 1990.[4] Fibroepithelial hyperplasia refers to a reactive localized tissue response. It is also known as irritational fibroma, oral fibroma or fibromatosis, focal fibrous hyperplasia, inflammatory fibrous hyperplasia, fibrous nodule or fibroepithelial polyp. It has a prevalence rate of 1.2 percent[5]andoccurs more commonly in the buccal mucosa along the occlusal line followed by labial mucosa, gingiva and palate.[6] Reactive lesions of the gingiva have been classified on the basis of their histology. Kfir et al[5]have specifically classified reactive gingival lesions into-pyogenic granuloma, Peripheral giant cell granuloma, Fibrous hyperplasia, Peripheral fibroma with calcification. It can be caused by chronic trauma due to poorly fitting dental prostheses, faulty restoration, dental plaque and calculus.[7]

Surgical excision along with the removal of causative irritants remains the treatment of choice.[8]Various treatment modalities can be used like scalpel, laser and electrosurgery.

Case 1

A 70-years old female patient came to the Department of Periodontology in Kothiwal Dental College & Research Centre with a chief complaint of swelling in the upper front tooth region from past 1 month. The lesion started as a small nodule which gradually increased in size. Lesion was not associated with any fever, heaviness or burning sensation but was painful. The pain was gradual in onset, moderate, intermittent, localized and aggravated on mastication which lasted for few minutes and then subsided on its own. She was

Hypertensive (180/90 mm/Hg), diabetic having RBS of 342mg/dl and Hba1c value of 8 and suffered from cardiac problem i.e., premature arterial and ventricular contractions. She was under various medications such as antihypertensive drugs, antidiabetic drugs, antianxiety drugs and antibacterials. Dental and family history was non-contributory.

Figure 1: Pre-operative clinical view

Upon intraoral examination, an exophytic growth on the labial aspect of maxillary incisor was seen which was spherical in shape measuring approximately 15 X 13 mm in size (Figure 1). The mass had well defined borders with central erythematous area with the overlying mucosa white in color. On palpation, the surface of overlying mucosa was smooth and the mass was firm and elastic in consistency. The mass was tender on palpation and slight bleeding was present on touch. On percussion, no tenderness was present in adjacent teeth. The growth appeared unilateral (Figure 2)

Figure 2: Pre-operative clinical view showing unilateral pattern of growth

A provisional diagnosis of irritational fibroma was made and the patient was subjected to a thorough medical examination.The patient was advised antibiotics (Amoxicillin 500 mg + Clavulanic acid 125 mg) thrice a day, along with analgesics (Aceclofenac 100 mg + Paracetamol 325 mg) twice a day for 3 days prior to surgery. Scaling was done. After 1 week, the patient was recalled for evaluation. After 2 weeks, the area was anaesthetized with 2% lignocaine solution(1:100,000). After the affected area was anaesthetized, the growth to be excised was assessed with the help of a periodontal probe. It was then held with a tissue forcep and excised with the help of the electrosurgical unit. (figure 3 & 4)

Figure 3: The electrosurgical unit

Figure 4: Excision of the growth with electrosurgical unit

Figure 5: Use of ball tip for coagulation

Figure 6: Application of gelfoam (gelatin sponge)

Figure 7: Coe pak placement

After the growth was excised the area was properly observed for any other etiology for the occurrence of it. To achieve haemostasis first a ball tip of the electrosurgical unit was used followed by application of gelfoam (gelatin sponge) (Figure 5 &6). Aluminium foil was placed over the area and coepak was given (Figure 7). The excised lesion was stored in formalin and sent for histopathologic examination for confirmed diagnosis.Histopathological examinationrevealed thick parakeratinized stratified squamous epithelium overlying a fibrocellular connective tissue stroma. Epithelium shows long rete ridges penetrating upto the deeper connective tissue stroma. Epithelium connective tissue junction is intact. Connective tissue has densely arranged collagen fibers in association with fibroblasts, numerous endothelial lined blood vessels filled with RBCs and infiltration of dense chronic inflammatory infiltrate cells predominantly consisting of lymphocytes and plasma cells. The histopathological features were suggestive of inflammatory fibroepithelial hyperplasia (Figure 8).The patient was recalled for regular follow upssubsequently. (Figure 9)

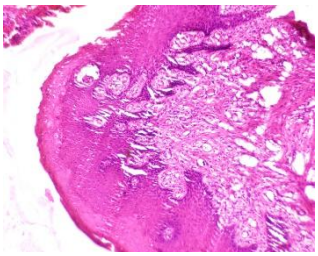

Figure 9: Histopathology of the biopsy specimen

Figure 8: Post-operative clinical view after 7 days and 3 months respectively

Case 2

A 62 years old male consulted the department with a chief complaint of a mass in the right inner side of cheek from past 1 month. The mass had been increasing in size gradually. It was also associated with pain on biting and during eating food. Pain was moderate, intermittent and patient had to take medication for relieve sometimes. The intraoral examination revealed the presence of a pedunculated, smooth soft tissue mass of 7x4mm located in right buccal mucosa near #47 #48 (Figure 10). When the patient closed his mouth, the masswas traumatized by biting on occlusion. (Figure 11). The treatment consisted of the complete surgical excision and extraction of #18 and coronoplasty of #17, 16. After giving adequate local anesthesia, the lesion was held with forceps and incision was given using a number 11 BP blade and sutured (Figure 12 & 13). The excised lesion was stored in formalin and sent for histopathologic examination. The histopathological examination revealed hyperparakeratotic stratified squamous epithelium. Underlying connective tissue showed bundles of collagen arranged haphazardly. The diffuse chronic inflammatory infiltrate was seen. The histopathologic findings confirmed the diagnosis of inflammatory fibroepithelial hyperplasia (Figure 15). The patient was followed up for 3 months (Figure 16). The surgical site showed uneventful healing and there was no evidence of recurrence of the lesion.

Figure 10: Pre-operative clinical view

Figure 11: Pre-operative clinical view showing mass in occlusion

Figure 12: Excision using scalpel

Figure 13: Suture given

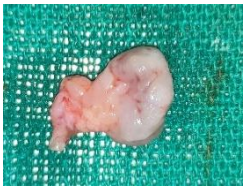

Figure 14: Excised mass

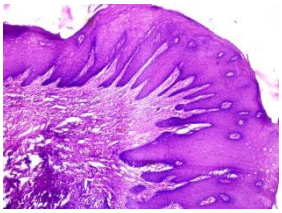

Figure 15: Histopathology of the biopsy specimen

Figure 16: Post-operative view of 1 week and 3 months respectively

Case 3

A 27 years old female consulted our department with a chief complaint of a growth in the leftteeth region from past 3 months. The growth increased in size gradually. The intraoral examination revealed the presence of elongated, smooth soft tissue mass of 8x5 mm located in leftpericoronalregion near decayed #37 (Figure 17).The treatment consisted of restoration of #37 and complete excision of the mass using diode laser (wavelength 940 nm in continuous mode in 2 W power) (Figure 18). After giving adequate local anesthesia, the lesion was held with forceps and excised (Figure 19). The excised lesion was stored in formalin and sent for histopathologic examination. The histopathological examination revealed hyperparakeratotic stratified squamous epithelium. Underlying connective tissue showed bundles of collagen arranged haphazardly. Elongated rete ridges were also observed. The histopathologic findings confirmed the diagnosis of inflammatory

fibroepithelial hyperplasia (Figure 21). The patient was followed up for 1 month (Figure 22). The surgical site showed uneventful healing and there was no evidence of recurrence of the lesion.

Figure 17: Pre-operative clinical view

Figure 18: The diode laser unit

Figure 19: Excision using diode laser

Figure 20: Excised mass

Figure 21: 1 month post-operative view

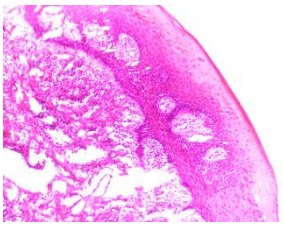

Figure 15: Histopathology of the biopsy specimen

II. Discussion

Reactive hyperplasia occurs as a result of injury or chronic irritation.[9]All the above cases had same etiology except for the first case.In the first case there was no history of trauma reported by the patient. The growth might have been influenced by the serum levels of certain endocrine hormones as the patient was diabetic.[10] Presence of plaque and calculus might have acted as aggravating factors[10]which was present in all the three cases.In the first case, the patient was hypertensive so to reduce the chance of post-operative bleeding electrosurgery was used.[11]Gelatin sponge (gelfoam) was also used to control bleeding as it holds blood and provides a matrix for clot formation and granulation tissue to form. It can be applied dry or moistened with saline or thrombin.[12]Ahuja S et al.[13] managed a similar case of unilateral growth in 8- year old male patient using scalpel.In the second case, the mass was on the buccal mucosa which is the most common site of occurrence.[6]Ayekinam K et al[14] and Jain M et[15] also encountered similar findings which was managed using scalpel. Scalpel was used for rapid dissection and precise tissue cutting. It is the most widely used modality. It also removes the lesion with safety margins which creates enough material for histopathological testing.[16].In the third case, laser was preferred because of its ability to easily ablate tissue, reduction in surgical time, less discomfort and postoperative pain and efficient coagulation.[17]Bornstein et al. (2005)[18] and Fisher et al. (1984)[19] listed various advantages of laser over scalpel like reduced mechanical trauma, no need for periodontal dressing and the appearance of fewer myofibroblasts resulting in comparatively lesser wound contraction.In both laser and electrosurgery no sutures are required and the wound is left to heal by secondary intention.In all the cases uneventful healing was observed in 7 days along with no post-operative complications.

III. Conclusion

Fibroepithelial hyperplasia as a disease entity comprise a number of clinical features. Though it is a benign neoplastic enlargement one cannot neglect its potential complications. A proper diagnosis should be made on the basis of thorough case history, clinical examination, radiographic assessment and histopathology. Based on this case series the authors conclude that laser and electrocautery provide a clean field, bloodless filed and less post-operative discomfort as compared to scalpel. However, among the different surgical options available the goal is to develop a treatment option with the fewest complications for the patients.

References

[1]. T. Esmeili, F. Lozada-Nur, and J. Epstein, "Common benign oral soft tissue masses," Dental Clinics of North America. 2005;49:1:223–240,.
[2]. Riya Verghese, Amitha Ramesh, Rahul Bhandary et al. Fibroma - A misnomer: Case Series. NUJHS:2015;5(4)
[3]. Tyldesley WR. Inflamatory overgrowths and neoplasms. Br Dent J. 1974; 136: 111-16.
[4]. Daley TD, Wysocki GP, Wysocki PD, Wysocki DM. The major epulides: Clinico pathological correlations. J Can Dent Assoc 1990; 56: 627-30.
[5]. Kfir Y, Buchner A, Hansen LS. Reactive lesions of the gingiva. A clinico-pathological study of 741 cases. J Periodontol. 1980; 51(11): 655-61.
[6]. Asaf Aboobakker et al. Focal fibrous hyperplasia: a case report. Pacific Journal of Medical Sciences 2014; 12(2):20-25.
[7]. Gandhi B, Dhuvad J, Johnson A, Bhavsar D. Reactive lesions of oral cavity. Natl J Integr Res Med. 2018; 7(8): 154–7
[8]. Naderi NJ, Eshghyar N, Esfehanian H. Reactive lesions of the oral cavity: A retrospective study on 2068 cases. Dent Res J (Isfahan). 2012; 9(3): 251-255.
[9]. Regezi JA, Sciubba JJ. Oral Pathology: Clinical-Pathologic Correlation. Philadelphia: Saunders; 2008. p. 156-9
[10]. Sanadi R. M. et al., Med. Res. Chronicles., 8(3), 252-256
[11]. Manjunatha VA et al. Electro-surgical management of a traumatic fibroma with clinical assessment of re-epitheliazation using methylene blue assay: A clinic-histopathological report. National journal f maxillofacial surgery
[12]. Grant C. Fowler. Procedures for primary care, 2020
[13]. Ahuja S, Gandh K, Malhotra R et al. Management of unilateral fibro-epithelial hyperplasia of gingiva. Journal of case Reports. 2017:75;282-84
[14]. Ayekinam Kao, Karima El Harti and Wafaa El Wady. Surgical removal of a focal fibrous hyperplasia: Two case reports. International Journal of Applied Dental Sciences 2017; 3(2): 215-17
[15]. Jain Mayank, V Singh Aruna, Leekha Swati, Prashar Sahil. Fibroepithelial Hyperplasia: A Case Report. International Healthcare Research Journal 2017;1(6):16-9

[16]. Valério RA, de Queiroz AM, Romualdp PC, et al. Mucocele and fibroma: treatment and clinical features for differential diagnosis. Braz Dent J. 2013:24(5):537-41
[17]. Kanhaiya lal,J.Parthiban, Banu Sargunar, C.A. Prakash,B.Anandh. Usefulness of laser in oral and maxillofacial surgery. Biomedical and Pharmacology Journal; 2015;8-3439
[18]. Bornstein, M.M, Winzap-Kalin, C. & Cochran, D.L et al. the CO2 laser for excisional biopsies of oral lesions: A case series study. Int J Periodontics Restorative Dent. 2005:25;221-9
[19]. Fisher, S.E & Frame, J.W. The effects of the carbon dioxide surgical laser on oral tissues. Br J Oral Maxillofac Surg. 1984:22;414-25