



Fibrous Focal Hyperplasia: A Case Report

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Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

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Case Study

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ABSTRACT

Aim: Aim of this case report is to present a case of irritation fibroma on the palate.

Presentation of Case: Intra oral examination revealed an overgrowth on anterior palatal tooth region. The lesion was well defined, solitary and firm in nature, fibrotic in consistency and sessile in attachment. The color of lesion was similar to adjacent mucosa. Histopathological report revealed an atrophic parakeratinized stratified squamous epithelium with elongated rete pegs. The underlying connective tissue is fibrocellular with dense wavy bundles of collagen fibers interspersed with varying amount of fibroblast. Presence of blood vessels with RBC's were also evident.

Discussion: Traumatic or irritation fibroma is a benign fibrous connective tissue tumor seen in oral cavity. These lesions are mostly hyperplastic reactions in response to chronic irritation or stimuli. It occurs most frequently on the buccal mucosa, gingiva, tongue and lips but can occur at other soft tissue sites in the oral cavity. Clinically the lesion may have similarity with other hyperplastic lesions or true neoplasm therefore histopathological diagnosis is necessary to differentiate the lesion. Histopathologically irritation fibroma is characterized by well defined bundles of collagen fibers and fibroblast proliferation.

Conclusion: Treatment of irritation fibroma requires complete excision of the lesion with scalpel, electrocautery or soft tissue Lasers. However the cause of irritation should also be eliminated to prevent the likelihood of recurrence. Based on clinical and radiographic examination it was diagnosed as fibrous focal hyperplasia.

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1. INTRODUCTION

Oral cavity may act as one of the common sites for development of gingival overgrowths. These localized enlargements like pyogenic granuloma, irritation fibroma, peripheral ossifying fibroma, peripheral calcifying fibroma have rare occurrence in aggressive forms and mostly they occur in response to chronic irritation or stimuli [1].

Irritation fibroma is a fibrous connective tissue benign tumor seen in oral cavity. "Inflammatory hyperplastic lesion may be defined as an increase in the size of an organ or tissue due to a local response of tissue to injury or an increase in the number of constituent cells." The trauma may occur from forceful embedment of any foreign substance or irritant into the oral tissues [2].

These lesions are mostly hyperplastic reactions which occur in response to chronic irritation or stimuli. It occurs most frequently on the buccal mucosa, gingiva, tongue and lips but can occur at other soft tissue sites in the oral cavity [1]. They are more common in females (middle age) but can occur in both genders and at any age. Fibromas originate from the periodontal ligaments or from gingival connective tissues and defined clinically as slow growing tumors which are well defined, spherical in shape, smooth surface, firm in consistency, have a broad base and may be sessile or pedunculated. They are usually painless overgrowths and gradually increase in size over the period of time [3].

Clinically the lesion may have similarity with other hyperplastic lesions or true neoplasms therefore histopathological diagnosis is necessary to differentiate the lesion.

Irritation fibromas are managed but elimination of the etiological factor and by surgically excising the lesion. If the cause persists the lesion can recur even though the recurrence rate of reactive hyperplastic lesions is rare [4].

Diode laser is a semiconductor optoelectronic device that converts the electrical energy to emit photons. Lasers are efficiently used for the gingivectomy, gingivoplasty, incisional, excisional biopsies, crown lengthening and ablation of soft

tissues. The wavelength of diode laser ranges from 810 to 980 nm [4].

This report shows a case of Irritation fibroma on the palate which was excised by diode laser application.

2. PRESENTATION OF CASE

A 17 year old female reported to the department of Periodontology with a chief complaint of swelling on the anterior palatal tooth region that had persisted for 1 year. The lesion was painless and had gradually increased in size to the present situation. A detailed case history was recorded which revealed that the patient was systemically healthy but gives a history of potato chip being impacted in the gingival tissue 1 year back followed by which the growth on anterior palate developed.

Intra oral examination revealed an overgrowth on anterior palatal tooth region (Fig-1). The lesion was well defined, solitary and firm in nature, fibrotic in consistency and sessile in attachment. The color of lesion was similar to adjacent mucosa. The extent of lesion was cervical aspect to contact point of 11,21 palatally measuring approximately 9mm in coronal length and 7mm in mesiodistal width and 6 mm in depth (Fig-2). There was no tenderness to gingival palpation and had tendency to bleed on provocation.

Radiographic examination, Intraoral periapical radiograph of maxillary left and right central incisors reveal no significant finding or abnormality in bone or tooth associated with the lesion.

After obtaining the Informed consent from the patient and the hematological investigations, excisional biopsy was performed under local anesthesia with a soft tissue diode laser (Biolase) at 940 nm wavelength, output energy of 1W at contact mode.

The lesion was grasped with a tissue holding forcep and the fiberoptic tip was placed at periphery of the lesion gradually excising the overgrowth completely from its base. Fig-3 shows the excised tissue.

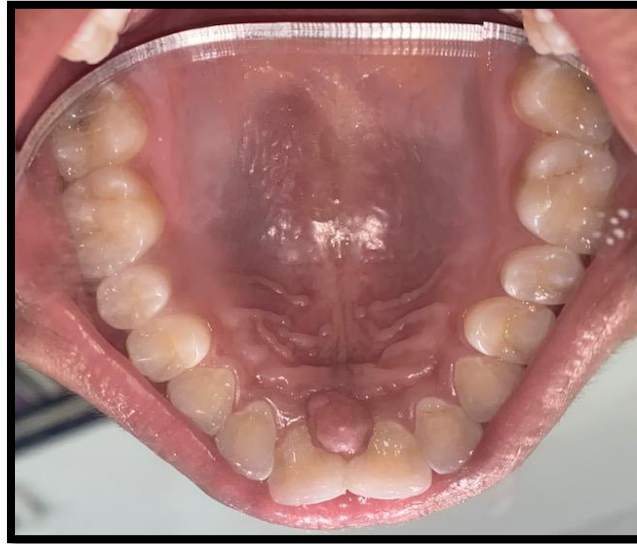


Fig 1. The palatal presentation of the overgrowth

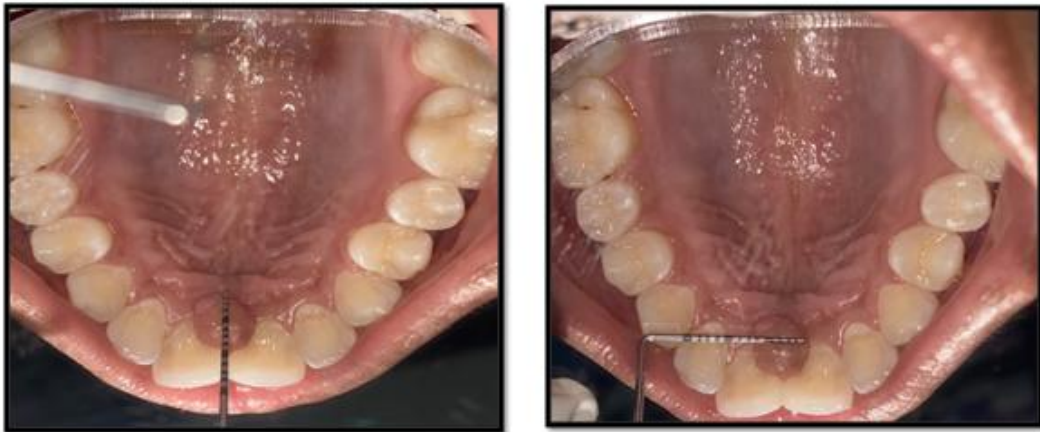


Fig. 2. Approximately 9mm in apicocoronal length and 7 mm in mesiodistal width

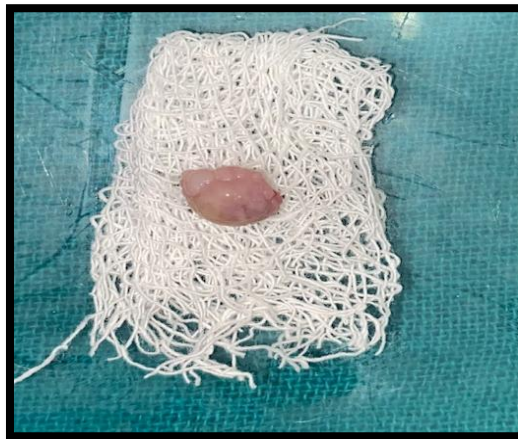


Fig. 3. The excised lesion

Post operative instructions were given to the patient and analgesics were prescribed. The excised tissue was immediately placed in 10% formalin solution and was sent for the histopathology.

Histopathological report revealed an atrophic parakeratinized stratified squamous epithelium with elongated rete pegs. The underlying connective tissue is fibrocellular with dense wavy bundles of collagen fibers interspersed with varying amount of fibroblast. Presence of blood vessels with RBC's were also evident.

Therefore on the basis of histopathological and clinical findings, the lesion was diagnosed as irritation fibroma. Patients were recalled after 1 week to evaluate the healing which was uneventful and then after 15 days for follow up.

The patient was recalled for Post-operative evaluations after 1week, 2 weeks , at 3 months and at 6 months , showing excellent healing and no signs of recurrence. Fig-5 demonstrates satisfactory healing in the area associated with the lesion after 2 weeks.

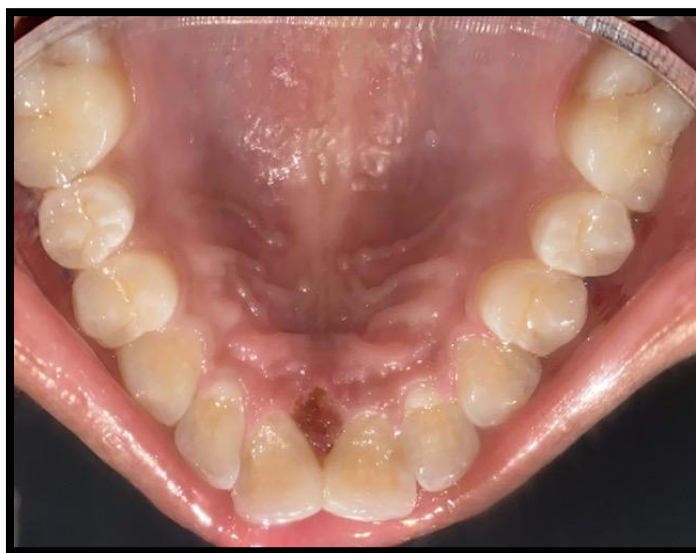


Fig. 4. Immediate postoperative image



Fig. 5. 2 weeks postoperative image showing completely healed area

3. DISCUSSION

Localized hyperplastic overgrowths, that are fibrous in nature are commonly seen in the oral cavity. The etiological factor for such overgrowths is mostly continuous irritation, injury or trauma [5]. Traumatic or irritation fibroma are more prevalent in the females about 66% of these lesions are found in women.

71% of irritation fibromas in oral cavity are seen on the labial, buccal mucosa and tongue however it can be present on other sites as well. These are usually asymptomatic lesions which are fibrotic and firm in consistency, increase in size and may be sessile or pedunculated [6].

Diagnosing irritation fibromas require differentiating them with other lesions which have same clinical characteristics like peripheral ossifying fibroma, pyogenic granuloma, and peripheral calcifying fibroma.

Histopathological features of irritation fibroma are well defined bundles of collagen fibers and fibroblast proliferation. Treatment of irritation fibroma requires complete excision of the lesion with scalpel, electrocautery or soft tissue Lasers. Along with the excision the cause of irritation should also be eliminated to prevent the likelihood of recurrence [7].

Diode lasers were introduced in dentistry in 1999. Their energy is absorbed especially by hemoglobin and melanin (chromophores), so they are excellent for use in soft tissue surgeries, favoring coagulation, achieving rapid ablation and thus faster healing with better postoperative period. Erbium lasers have been used successfully in soft and hard tissue surgeries [8].

It has been proved from the previous studies that lasers reduce the requirement for local anaesthetic, suturing, periodontal dressing, and postoperative medicines [9]. The use of lasers stimulates mast cells and lymphocytes, resulting in anti-inflammatory effects [10]. Excision with Diode laser is relatively easy procedures as it is painless, bloodless with no operative or post operative pain, ensures instant sterilization, bacteremia no or minimal discomfort to the patient. It takes less operative time, painless and enhanced visibility due to reduced bleeding as compared to the conventional methods [4].

4. CONCLUSION

This report describes a case of irritation fibroma which was excised using laser. The lesion was

successfully excised using soft tissue diode laser radiation, which is an effective, simple, and safe method. It was a comparatively painless procedure both intraoperatively and postoperatively and the patient reported of no post operative discomfort. There was no recurrence after a 6-month follow-up. Thus Diode laser provides excellent results for excision of such lesions in the oral cavity.

CONSENT

As per international standard or university standard, patients' written consent has been collected and preserved by the author(s).

ETHICAL APPROVAL

As per international standard or university standard written ethical approval has been collected and preserved by the author(s).

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Pai JB, Padma R, Malagi S, Kamath V, Shridhar A, Mathews A. Excision of fibroma with diode laser: A case series. *J Dent Lasers*. 2014 ;8(1):34-36.
2. Jain G, Arora R, Sharma A, Singh R, Agarwal M. Irritation fibroma: Report of a case. *J Curr Res Sci Med*. 2017;3(2):118-121.
3. Park SH, Song YW, Jung UW, Choi SH, Cha JK. Histopathological Analysis of Irritation Fibroma Occurred in Young Male Gingiva: A Case Report. *J Korean Dent Sci*. 2020;13(1):35-41.
4. Amaral MB, de Ávila JM, Abreu MH, Mesquita RA. Diode laser surgery versus scalpel surgery in the treatment of fibrous hyperplasia: a randomized clinical trial. *Int J Oral Maxillofac Surg*. 2015;44:1383-1389.
5. Christopoulos, P, Sklavounou A, Patrikiou A. True fibroma of the oral mucosa: A case report. *Intl J Oral Max Sur*. 1994;23(2): 98–99.
6. Borkar P, Gattani D, Uike S. Traumatic Fibroma—A Case Report. *J Clin Case Rep*. 2019;2(2):1-3.
7. Kolte AP, Kolte RA, Shirao TS. Focal fibrous overgrowths: A case series and

- review of literature. Contemp Clin Dent. 2010;1:271-274.
8. Cristina S, Elena TF, Libia S. Excision of a traumatic fibroma with diode laser in a pediatric patient: case report. Rev Fac Odontol Univ Antioq. 2022;31(1):162-170
 9. Gulati R, Khetarpal S, Ratre MS, Solanki M. Management of massive peripheral ossifying fibroma using diode laser. J Indian Soc Periodontol. 2019;23(2): 177-180.
 10. Katara AA, Minhas R, Kumar A, Dasgupta S. A case report on the excision of irritational fibroma using the diode laser. J Dent Res Rev. 2020;7(1): 24-26.

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