

IRRITATION FIBROMA- A CASE-REPORT

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Abstract

Oral cavity in humans act as one of the most frequent areas for the development of overgrowths. These overgrowths can be categorized on the basis of their etiopathogenesis, site, size and their extent. These enlargements mostly effect a particular region and are localized in nature, like pyogenic granuloma, irritation fibroma, peripheral ossifying fibroma, peripheral calcifying fibroma. These overgrowths seldom occur in aggressive forms and frequently occur due to chronic irritation or stimuli over the particular area. [1].

Irritation fibromas are basically provoked fibrous connective tissue overgrowths which are benign in nature and appreciated mostly in oral cavity. Particularly, in “Inflammatory hyperplastic lesion there is an increase in the size of an organ or tissue due to a local response of tissue to injury or an aggravation in the number of constituent cells.” The trauma may occur from vigorous entrenchment of any foreign substance or irritant into the oral tissues [2].

These lesions are most commonly hyperplastic reactions that occur in response to chronic irritation or stimuli. The most familiar location of occurrence include, buccal mucosa, gingiva, tongue and lips but they also have the predilection to occur at other soft tissue locations in the oral cavity [1].

These overgrowths can occur in both genders and at any age but slightly a higher predilection is seen in middle aged females. Fibromas mainly develop from the periodontal ligament or from gingival connective tissues. They are 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. Fibromas are generally painless overgrowths and gradually increase in size over the progression of time [3].

The histopathological diagnosis of fibroma is mandatorily required to demarcate its difference from other clinically identical hyperplastic lesions or neoplasm of the oral cavity.

Key words – fibroma, overgrowth, laser, irritation, excision

Management of Irritation fibromas can be done by surgically excising it but until the total abolishment of its etiological factor it can occur again , even though the recrudescence of reactive hyperplastic growths is rare [4].

Diode laser is a semiconductor optoelectronic device that converts the electrical energy to emit photons. Currently, lasers are widely used in removal of overgrowths in the oral cavity. Wide range of periodontal procedures like gingivoplasty, gingivectomy, incisional and excisional biopsies, frenectomy, depigmentation, crown lengthening and ablation of soft tissues are being carried out by laser. The wavelength of diode laser ranges from 810 to 980

nm [4]. This report depicts a case of Irritation fibroma on the tongue that was excised by using diode laser application.

2. PRESENTATION OF CASE

A 32 year old male turned up to department of Periodontology, Manav Rachna Dental College, with a chief complaint of overgrowth present on anterior aspect of tongue, near tip which had persisted for 1 year. The lesion was painless and had gradually enlarged in size leading to the present situation. After obtaining a detailed case history from the patient, it was revealed that the patient was systemically healthy and he also did not have any deleterious habits like smoking or chewing tobacco. Intra oral examination of the patient revealed an overgrowth on right lateral aspect of tongue. (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 the tongue. The lesion measured approximately 4mm in length and 0.5mm width. The lesion did not have the tendency to bleed on provocation.

After a brief discussion about the procedure to the patient, the approval and informed consent was obtained from patient and hematological investigations was done. Excisional biopsy was performed under local anesthesia with a soft tissue diode laser (Biolase) at 940 nm wavelength, output energy of 0.9 W at contact mode(Fig-2)

During the surgery, the overgrowth was gripped with a tissue holding forcep and the fiberoptic tip was layed down at periphery of the lesion cautiously excising the overgrowth completely from its base on the lateral aspect of tongue (Fig-3)

After the procedure was completed, post-operative instructions was given to the patient. Fig-4 demonstrates the excised tissue. The excised tissue was instantly placed in 10% formalin solution and was transferred to the Department of Oral Pathology for histopathological examination.

Histopathological report revealed a parakeratinized stratified squamous epithelium which is atrophic at places. The underlying connective tissue exhibited bulky wavy bundles of collagen fibres interspersed with varying number of fibroblast. Numerous dilated blood vessels of varying size and shape were also evidently seen. (Fig- 5)

Fig 1- Pre-operative



Fig 2- Laser Specification

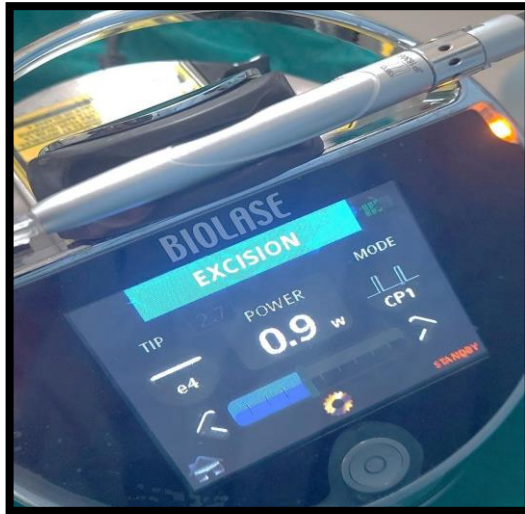


Fig- 3 During the procedure

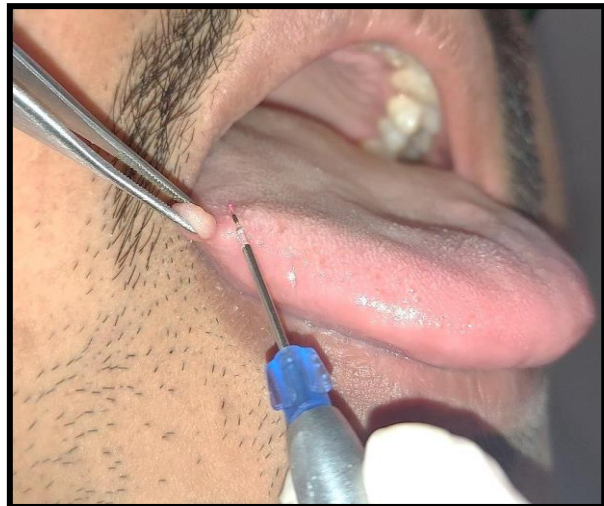


Fig – 4 Excised tissue and its placement in formalin

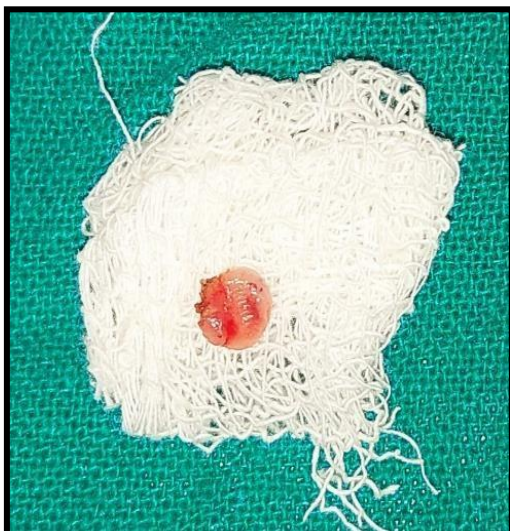


Fig- 5 Histopathological slide of the excised tissue

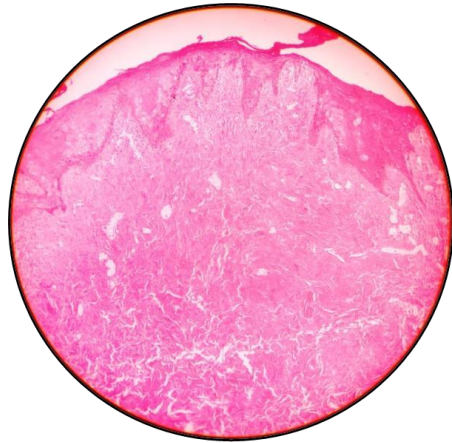


Fig -6 Immediate post- operative



Fig – 7 Post-operative after 7 days



Fig- 8 Post- operative after 15 days



Thus, on the basis of histopathological examination and clinical findings, the lesion was diagnosed as fibroma. Fig- 6 shows the immediate post-operative picture. To evaluate the healing of the excised region, the patient was recalled after a week (Fig-7) and then again after 15 days for follow up. The healing was eventful. (Fig- 8)

The patient was recalled for Post-operative evaluation after 1 week, 2 weeks, at 3 months and at 6 months, excellent healing was seen and there was no sign of reversion.

3. DISCUSSION

Fibrous localized hyperplastic overgrowths, is most commonly seen in oral cavity. Mostly continuous irritation, injury or trauma are mainly considered to be the etiological factor for such growths [5]. These type of traumatic or irritational fibroma are more commonly seen in the females which accounts for almost 66%. Whereas, 71% of irritation fibromas are also seen in oral cavity the labial, buccal mucosa and tongue however it can be also present on other soft tissue sites as well.

These lesions are usually asymptomatic with fibrotic and firm consistency, with increase in size and can be sessile or pedunculated [6].

Diagnosis of the irritation fibromas requires differentiating them from the other lesions in oral cavity with similar clinical characteristics like peripheral ossifying fibroma, pyogenic granuloma, and peripheral calcifying fibroma.

Histopathological features of irritation fibroma include well defined bundles of collagen fibers and proliferation of fibroblast. Fibromas can be treated by complete excision of the lesion. Various methods can be used for its complete excision like 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 are a class of lasers that bring about laser radiation through a semiconductor. Diode laser was introduced into the field of dentistry in year 1999. These lasers have got great affinity of absorption especially by hemoglobin and melanin pigments, thus they are excellent for use in soft tissue surgeries, they favour coagulation, help in achieving rapid ablation and thus faster healing with better postoperative period. Erbium lasers have been also 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, requirement of suture placement and periodontal dressing in the surgical site, and the need for postoperative medications [9]. Stimulation of mast cells and lymphocytes occur with the use of laser, thus causing anti-inflammatory effects [10].

Excision of overgrowths with diode laser is mostly opted because it provides painless and bloodless field with no pain during or post the surgery. Along with that it ensures instant sterilization, no bacterial engulfment and minimal discomfort to the patient. With lasers with operative time also gets reduced and there is enhanced visibility due to less bleeding during the procedure when compared with the conventional methods. [4]

4. CONCLUSION

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

CONSENT

As per international standard of university standard, patients written consent has been collected and preserved by the author.

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. *JDent 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 Maxillofax 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, Shrirao 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.