



EVALUATION OF DIFFERENT TREATMENT MODALITIES FOR THE EXCISION OF IRRITATIONAL FIBROMA: A CASE SERIES

Surgery

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ABSTRACT

INTRODUCTION: Fibroma is the most common benign tumor-like lesion of the oral cavity. They are non-neoplastic fibrous overgrowths; usually reactive or irritational in nature. Different kinds of surgical treatments have been employed for the removal of fibromas, which include simple excision using scalpel, laser technology, electrical surgery, and cryotherapy. This report aimed at comparing two different treatment modalities for excision of fibroma- laser and scalpel.

METHODS: Two cases of irritational fibroma, one using a diode laser and another using scalpel, were undertaken for comparison.

RESULTS: Parameters like time taken for the procedure, intra-operative bleeding, ease of surgery for the surgeon, and the post-operative wound healing were evaluated with both the techniques. Excision with laser was an easier procedure for the surgeon and the time taken was less than excision with scalpel. Additionally, bleeding was controlled better and a significantly faster healing period was observed with laser as compared to excision with scalpel.

CONCLUSION: Excision with laser provides better working conditions and has a quicker and superior post-operative healing over the scalpel surgery.

KEYWORDS

Excision, fibroma, scalpel, laser, case-report

INTRODUCTION:

Fibroma is the most common benign tumour-like lesion of the oral cavity. ^[1] It is an exophytic soft tissue mass, which is not a real neoplasm but a focal hyperplasia of fibrous connective tissue induced by local trauma or chronic irritation. ^[2] Irritants such as calculi, foreign bodies, chronic biting, overhanging margin restorations, sharp spicules of bone, and overextended borders of appliances contribute to be the causative agents for the occurrence of fibroma. ^[3]

The common site for occurrence of irritational fibroma is buccal mucosa along the occlusal plane, labial mucosa, gingiva and tongue. ^[4] These lesions are usually asymptomatic, sessile, or pedunculated firm mass found in the fourth to sixth decade of life. ^[4]

Treatment of irritational fibroma encompasses of its surgical excision along with elimination of the causative factor to reduce the possibility of recurrence. Recent treatment modalities such as electrocautery, Nd: YAG laser, flash lamp pulsed dye laser, cryosurgery, and intralesional sclerotherapy injection of ethanol or sodium tetradecyl sulphate have gained popularity. ^[4]

This article covers two cases of irritational fibroma along with an aim to discuss on the two most common and proficient methods employed for its excision- laser and scalpel.

CASE REPORT 1:

A 41-year-old female patient visited to our Department of Oral and Maxillofacial Surgery with an 8-month history of difficulty in eating food due to a soft tissue mass in the lower right posterior region of her jaw. She complained of constant trauma from the sharp upper tooth. Additionally, the size of the nodular growth was initially small; and over the time gradually increased to its present size.

On examination, a 1.5 x 1.0 x 1.5 cm sized pinkish, non-tender, smooth and firm nodular mass was seen with its base towards the lingual aspect of 48. Further inspection revealed the presence of a partially impacted 48 and a sharp distopalatal cusp of 17 impinging on the lesion.

After history and examination, a provisional diagnosis of irritational

fibroma was suggested, which was later confirmed through histopathological reports. The diode laser unit (Zolar laser, wavelength: 810 nm) was opted for this patient. After scrubbing and draping with aseptic protocols; local infiltration was administered around the lesion. The lesion was grasped using a suture thread and retracted with minimum tension. The laser tip was placed at the periphery and was gradually moved around the base of the lesion to dissect out the fibroma. (Figure 1)



Figure 1 : Excision of fibroma with diode laser.

The site was inspected for hemostasis and allowed to heal by secondary intention. (Figure 2) The cause of irritation being the sharp distopalatal cusp of 17, was also selectively grinded. Patient was recalled on 7th day to assess the post-operative healing (Figure 3).



Figure 2 : Immediate post-operative wound.



Figure 3 : Healing on post-operative day 7.

CASE REPORT 2:

A 66-year-old male patient visited to our Department of Oral and Maxillofacial Surgery with the chief complaint of soft tissue growth on the lower lip since 6-months. Initially the mass was small, but gradually increased to its present size.

On examination, a 1 x 1 x 1 cm non-tender, sessile, and firm soft tissue growth was seen on the right mucosal side of the lower lip. Moreover, there was a sharp edge of supra-erupted tooth 13 impinging over the lesion. Based on the history and examination, a provisional diagnosis of irritational fibroma was suggested; which was later confirmed by histopathological reports.

The patient was scrubbed and draped under aseptic conditions and local anaesthesia was administered around the lesion. The soft tissue mass was excised using a No. 15 blade mounted on a Bard Parker handle. The lesion was grasped with a tooth holding forcep and excised completely from underneath (Figure 4).



Figure 4 : Fibroma of lower lip.

Interrupted sutures were necessitated to control minor oozing and to allow primary healing (Figure 5). The extraction of supra-erupted 13 was also carried out. Patient was recalled after 7 days for removal of sutures and to assess post-operative healing (Figure 6).



Figure 5 : Interrupted Sutures placed.



Figure 6 : Healing on post-operative day 7.

RESULTS:

Two cases of surgical excision of irritational fibroma were conducted, one with diode laser and the second with conventional method using a scalpel. The patients were assessed on the parameters like time taken for the procedure, intra-operative bleeding, ease of surgery for the surgeon, and the post-operative wound healing.

Time taken for surgery was recorded using a stopwatch, and measured as the time taken from the deposition of anesthesia till the completion of the procedure. The time taken was less using the laser diode when compared with scalpel (Table 1); which can be attributed to the fact that photocoagulation effect of laser reduced intra-operative bleeding, thereby providing a relatively bloodless surgical field.^[1] Hence, with minimum bleeding, the working conditions drastically improved for the surgeon, and also eliminated the need for sutures. However, excision using the scalpel required constant need of hemostasis; as well as placement of sutures, thereby increasing the working time.

Table 1: Time taken for the procedure.

Case 1	24 minutes
Case 2	32 minutes

Post-operative healing was also better in the patient who underwent excision with laser. The minimal damage and scarring to surrounding structures, coupled with nil foreign body involvement of sutures; enhanced the healing after laser excision. On the contrary, sutures placed in scalpel surgery required additional time; but offered primary healing of the wound.

DISCUSSION:

Irritational fibroma represents reactive hyperplasia of fibrous tissue that develops as a result of chronic recurring injury causing an excessive tissue repair response.^[1] The treatment is surgical excision; however, the underlying cause of irritation must also be eliminated to prevent chances of recurrence if exposure to the irritant persists.^[1]

On comparison of laser and scalpel, the latter has an advantage of being the most commonly used technique in Oral Surgery due to its proven success over the centuries; and being inexpensive without the need for additional equipment.^[5] Besides, surgeons have mastered their dexterity using the scalpel, and are confident in placing sharp and defined strokes. However, this modality presents with few constraints as well. The considerable intraoperative bleeding due to severing of blood vessels results in obscured vision of the surgical field. Along with the possible damage to adjacent anatomical landmarks, surgeons need to be cautious while using the scalpel. Finally, as mentioned earlier; the need for sutures after excision with scalpel increases the surgical time relatively.

Laser, on the other hand has gained popularity because of its compact size, low cost, and ease of use for minor oral surgical procedures.^[6] It is a monochromatic, collimated, coherent, and intense beam of light produced by stimulated emission of radiation of a light source.^[6] It incorporates properties of warming, coagulating, welding, drying, carbonization, vaporization, and protein denaturation.^[7,8] In the two cases reported above, the laser surgery had the benefit of relatively bloodless surgical field, was performed reasonably faster and no sutures were needed; as haemostasis was achieved immediately after the removal of the lesion. Literature also advocates that laser reduces the need for postoperative analgesics/narcotics, and diminishes the bacterial count at the surgical site leading to accelerated healing.^[9] Furthermore, it is useful for lesions in aesthetic zone, lesions with probability of bleeding such as vascular lesions, and for patients with fear from blade surgery.^[9]

Unvaryingly, in our cases too, we found laser surgery to be more effective and advantageous as compared to the conventional scalpel method.

CONCLUSION:

The oral cavity is an ideal niche for manifestation of various reactive overgrowths of soft tissue. Treatment for complete removal of benign exophytic fibrous lesions with diode laser is associated with minimal bleeding, conducive operative conditions and better healing as compared to scalpel surgery.

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Patient consent-

All consent forms were duly signed by the patient after explaining the entire procedure in the language best understood by them.

Conflicts of Interest-

All the authors declare that they have no conflicts of interest.

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REFERENCES:

1. Noble S, Guru S, Nisha KJ. Management of Irritational Fibroma by Three Different Treatment Modalities-A Case Series.
2. Jiang M, Bu W, Chen X, Gu H. A case of irritation fibroma. *Postepy Dermatol Alergol.* 2019;36(1):125-6.
3. Bakhtiari S, Taheri JB, Sehhatpour M, Asnaashari M, Attarbashi Moghadam S. Removal of an extra-large irritation fibroma with a combination of diode laser and scalpel. *J Lasers Med Sci.* 2015 Autumn;6(4):182-4.
4. ISSN: 2072 – 1625 A LARGE FIBROMA. *Department of Oral Medicine and Radiology, AJ Institute of Dental Sciences. 2016;16(2).
5. Kalkwarf KL, Krejci RF, Edison AR, Reinhardt RA. Subjacent heat production during tissue excision with electrosurgery. *J Oral Maxillofac Surg.* 1983;41(10):653-7.
6. Asnaashari M, Zadsirjan S. Application of laser in oral surgery. *J Lasers Med Sci.* 2014 Summer;5(3):97-107.
7. Eliades A, Stavrianos C, Kokkas A, Kafas P, Nazarglou I. 808 nm diode laser in oral surgery: A case report of laser removal of fibroma. *Res J Med Sci.* 2010;4(3):175-8.
8. Azma E, Safavi N. Diode laser application in soft tissue oral surgery. *J Lasers Med Sci.* 2013 Autumn;4(4):206-11.
9. Sotoode SM, Azimi S, Taheri SA, Asnaashari M, Khalighi H, Rahmani S, et al. Diode laser in minor oral surgery: A case series of laser removal of different benign exophytic lesions. *J Lasers Med Sci.* 2015;6(3):133-8.