

CASE REPORT

A REPORT OF SOLITARY LARGE BUCCAL FIBROMA TREATED USING DIODE LASER: 6 MONTH FOLLOW UP

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ABSTRACT: Traumatic or irritational fibroma is a common benign reactive oral lesion and the treatment of choice is surgical excision. The use of lasers in dental practice has become a very common treatment modality. Here we present a case of a large fibroma on the buccal mucosa which was excised using diode lasers. This procedure proved to be an efficient treatment modality without any unfavourable postoperative consequences

KEYWORDS: Fibroma, Diode lasers, Minimal Bleeding, Improved Healing.

INTRODUCTION: The localized lesions of the oral cavity have been broadly documented as: Irritation fibroma, Peripheral ossifying fibroma, squamous papilloma, Giant cell fibroma, Pyogenic granuloma and Peripheral giant cell granuloma. The fibroma is a common benign tumor and can occur at any age from almost any soft tissue site the tongue, gingiva and buccal mucosa being the most common. Most, if not all, fibromas represent reactive focal fibrous hyperplasia due to trauma or local irritation.^{1,2} The diagnosis of these soft tissue tumours have always been a challenge to the dentists. Many of these lesions are common and relatively characteristic in presentation. However in certain instances, unusual findings may leave the dentist with certain diagnostic uncertainty. The majorities of the fibromas are small lesions whose growth potential does not exceed 10 to 20 mm in diameter and those measuring >1 cm is rare. They do not have malignant potential and recurrences are mostly as a result of failure to eliminate the chronic irritation involved.^{3,4}

Numerous treatment modalities have been employed for the treatment of fibroma consisting of surgical excision, electrocautery and lasers, depending upon the clinical and anatomic considerations. Diode lasers can be used for a multitude of dental procedures which are predominantly soft tissue surgery and research has shown that NIR (near infrared) laser light around 810 nm to be one of the most versatile with regard to the number of different treatments it can be used for.⁵

Here we present a rare case of a solitary large buccal fibrotic growth which was treated using diode laser.

CASE HISTORY: A 21 year old male patient had reported to the Department of Periodontology, with a chief complaint of a soft tissue growth which was positioned posteriorly in his right buccal mucosa with no associated pain. Patient expressed difficulty in maintaining oral hygiene in that particular area. On eliciting the history, the patient revealed that the growth was present since childhood and apparently by birth. According to the patient there was slight increase in the size of the growth with age. No relevant medical history was revealed.

Extra orally, there was no deformity detected and the regional lymph nodes were not palpable. Intra orally there was presence of a solitary, pendunculated, pale pink coloured lesion

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measuring roughly 2cm x 2cm x 1cm originating from the buccal mucosa in relation to mandibular posterior region. (Figure 1)

The lesion was non scrapable, and non-tender. On correlating the chief complaint, a provisional diagnosis of irritational fibroma was given. As the size of the lesion was >2cm, it was planned to be excised with laser. An informed consent was obtained from the patient after explaining the procedure.

The fibroma along with adjacent normal tissue was excised under local anesthesia [lignocaine hydrochloride 2 % and 1:200000 adrenaline]. The procedure was carried out with diode lasers with a frequency of 810 nm, with a power setting at 2.5W, in pulsed mode. (Figure 2) The bleeding at the surgical site was minimal and the procedure was painless. The patient did not report any discomfort either at the time of procedure or postoperatively. (Figure 3)

Postoperatively the patient was advised to take analgesics (ketorolac 10mg) twice daily for the first two days, and then continue if the pain persists.

The complete excised tissue (Figure 5) was stored in 10% neutral buffered formalin and sent for the histological analysis. Hematoxylin and eosin staining was carried out and light microscopy analysis revealed atrophic parakeratinised stratified squamous epithelium underlying connective tissue stroma and dense fibrous tissue with few blood vessels. Thus a definitive diagnosis of fibroma was given. (Figure 7)

DISCUSSION: Fibroma is the most common benign soft tissue tumor in the oral cavity. Most fibromas represent reactive focal fibrous hyperplasia due to trauma or local irritation. Hyperplasia is a self-limiting process unlike neoplasia and hyperplastic cells sometimes show regression after removal of the stimulus.

Fibroma is a result of a chronic repair process that includes granulation tissue and scar formation resulting in a fibrous submucosal mass. Recurrences are rare and may be caused by repetitive trauma at the same site. This lesion does not have a risk for malignancy. The most common sites of traumatic fibroma are the tongue, buccal mucosa, and lower labial mucosa.⁶

The general literatures have cited the reason for a few of the oral lesions like irritation fibroma and mucocele, due to oral habits such as lip biting/sucking in childhood.⁷ Rare association of reactive hyperplasia or traumatic fibroma with a natal tooth in an 4 year and 6 month old infant has been reported.⁸

In our present case report, we have chosen laser as a treatment modality, over the standard treatment procedure which is performed by scalpel, considering the large size of the fibroma.

Studies have shown that lasers as a treatment modality has minimal postoperative complications. Lasers can promote homeostasis, avoiding the need for dressing or sutures. Depending on the wavelength, it can lead to better homeostasis and greater potential for cutting, but all soft tissue healing is by secondary intention. Shorter laser wavelengths (801- 1064 nm) pass through the epithelium and penetrate 2 to 6 mm into the tissue, whereas longer wavelengths (2940 nm-10,600 nm) have minimal penetration. During procedure, the heat generated by the laser can seal small blood and lymphatic vessels and reduce or eliminate bleeding and edema.⁹

Fibroma is a slowly progressing lesion, the growth of which is generally limited.¹⁰ Many cases will progress for long periods of time like in this present case it was for about 20 years before the patient seeked treatment because of the lack of symptoms associated with the lesion.

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In the present case, the size of the fibroma was more than 2 cm, which is a rare clinical finding in the oral cavity. The use of diode laser, proved to be successful in excising the fibroma with a virtually bloodless field, a painless procedure and showed satisfactory wound healing. 6 month follow-up revealed, clearly healed site with no scarring. (Figure 6).

CONCLUSION: Lasers has proved to be a better treatment option for treating huge oral fibrotic lesions, with a bloodless operative field and without any postoperative complication. No recurrence was observed on follow up visits and patient was well satisfied with the treatment outcomes.

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Fig. 1: Intraoral preoperative lesion



Fig. 2: Excision of lesion with laser

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Fig. 3: Immediate post-operative view



Fig. 4: 5- days postoperative view showing healing



Fig. 5: Excised soft tissue overgrowth



Fig. 6: 6 month post-operative view

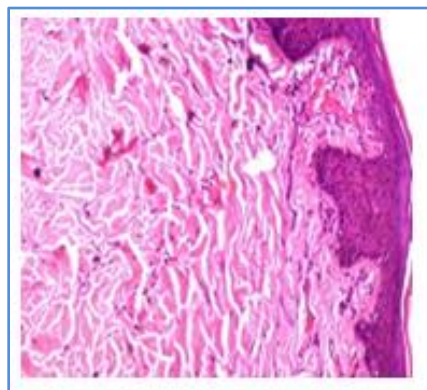


Fig. 7: Histological view showing parakeratinised stratified squamous epithelium underlying connective tissue stroma and dense fibrous tissue with few blood vessels

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