

# Fibrous Hyperplasia – A Case Report

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**Abstract:-** The benign and exophytic-looking irritation fibroma, also known as traumatic fibroma, is a frequent oral lesion. It can appear at any age and develops as a result of tissue damage. It is the final result of the inflammatory hyperplastic lesion after healing. The buccal mucosa, any soft tissue location, tongue, and gingiva are the most often affected sites. There is a preference for women. The preferred course of treatment for this reactive lesion is surgical excision. The purpose of this case report is to describe a benign lesion in a 54-year-old female patient who visited the department complaining of pain and swelling around the right upper front tooth for five months. Upon examination, the lesion was found to be well-circumscribed, smooth, firm, and reddish pink swelling measuring 0.5cmX0.5cm in the area of the right canine and premolar. Using a diode laser, the lesion was removed. One month after surgery, there was no sign of a recurrence. As it clinically mimics numerous illnesses including peripheral giant cell granuloma, pyogenic granuloma, or odontogenic tumours, histopathological testing is crucial for appropriate diagnosis.

## I. INTRODUCTION

One of the most typical lesions in the mouth cavity is gingival and buccal growths. Irritational fibroma, pyogenic granuloma, peripheral ossifying fibroma, and peripheral giant cell granuloma are only a few of the benign lesions that rarely have aggressive characteristics. These lesions are typically brought on by trauma or persistent irritation<sup>1</sup>. The benign exophytic oral lesion known as an irritation fibroma, often referred to as a traumatic fibroma, is quite frequent and results from tissue damage. One of the most prevalent benign reactive lesions is the traumatic fibroma<sup>2</sup>. A fibrous submucosal tumour known as a fibroma is the end result of a chronic healing process that includes granulation tissue and scar formation. Recurrences are uncommon and may be brought on by consistent trauma to the same area. There is no



Fig.1: Preoperative view

chance that this lesion may turn malignant. The tongue, buccal mucosa, and lower labial mucosa are the most often affected areas by traumatic fibroma.

Due to its useful qualities, the diode laser system has gained widespread recognition in the field of lasers and is regarded as a key instrument for numerous applications. When utilised as a supplement to conventional procedures in the treatment of inflammatory periodontal tissues and peri implant tissue, diode laser has demonstrated satisfactory outcomes. Its wavelength is between 810 and 980 nm<sup>3</sup>. The diode laser is an excellent hemostatic agent because this energy level is absorbed by pigments in soft tissues. The laser procedure can be employed for soft tissue tuberosity reduction, ablation of lesions, incisional and excisional biopsies, gingivectomies, gingivoplasties, and certain crown lengthening procedures<sup>4</sup>. The patient in this case report had a fibroma on the hard palate of the oral cavity, and it was removed with a diode laser under topical local anaesthetic.

## II. CASE REPORT

A 54-year-old female patient who was complaining of a tiny, painless swelling around the right upper front tooth region for the past five months visited the department of periodontics. On clinical inspection, the lesion on the hard palate was found to be a solitary, pink, sessile, and smooth-surfaced nodule, measuring approximately 0.5x0.5cm (Fig. 1). An irritational fibroma was diagnosed on the basis of the patient's medical history and clinical symptoms. The differential diagnosis includes peripheral giant cell granuloma, osteosarcoma, chondrosarcoma, pyogenic granuloma, and peripheral odontogenic fibroma. It also includes chronic fibrous epulis. All blood cell counts on a complete hemogram were within normal ranges. It was decided to do an excisional biopsy using a LASER under topical LA because the patient complained of discomfort when eating and speaking. (Fig. 2)



Fig.2: Excision using LASER

### III. SURGICAL PROCEDURE

Informed consent from the patient was acquired when the treatment plan was explained. Complete excision of the fibrous overgrowth in the hard palate was carried out using a diode laser unit after topical local anaesthetic was administered (wavelength 810nm). Contact mode was used during the process. A surgical assistant used tissue pliers to grab the palatal growth and gently retract it. The fiberoptic tip was positioned at the edge of the lesion and gradually moved

around it while continually firing the laser to totally remove the fibroma. The removed tissue (Fig. 3) was placed in a 10% formalin solution before being sent for histological analysis. (Fig 4). The case's first postoperative image is displayed in (Fig.5). The bleeding stopped. There was no need for stitches because the patient felt at ease. After surgery, no antibiotics were administered. If necessary, the patient was told to take analgesics. The patient was summoned back after a month to assess the recovery, which went smoothly. (Fig.6)



**Fig.3: Excised tissue**



**Fig.4: Tissue in 10 % neutral buffered formalin solution**



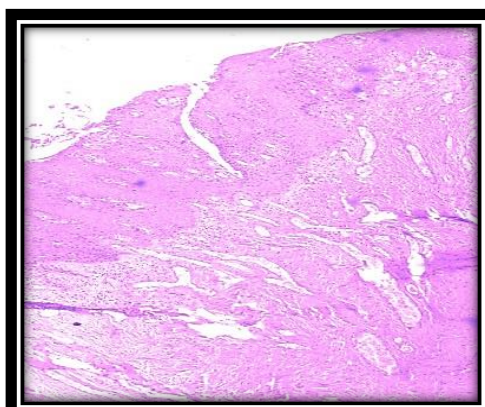
**Fig.5: Immediate postoperative view**



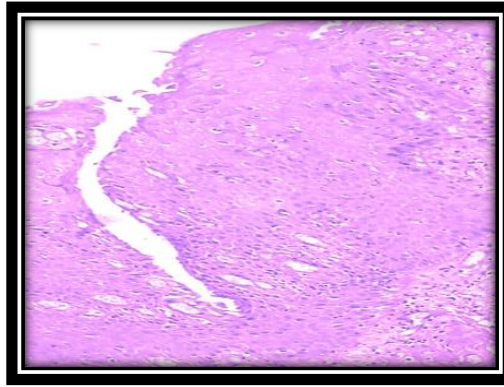
**Fig. 6: Re-evaluation after 1 month**

### IV. HISTOLOGICAL EXAMINATION

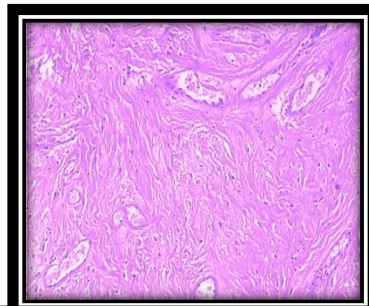
Fig 7 shows H&E stained sections under 5X, Fig 7a and 7b under 10X. It shows eroded stratified squamous epithelium, with break in continuity of the epithelium (Fig 7a). The connective tissue shows dense homogenized bundles of collagen fibres along with fibroblasts. Vascular spaces and a few chronic inflammatory cells are seen (Fig 7b). Based on this, a diagnosis of “fibrous hyperplasia” was made.



**Fig. 7 H&E stained sections under 5X containing both epithelium and connective tissue.**



**Fig. 7a H&E stained sections under 10X containing only epithelium.**



**Fig. 7b H&E stained sections under 10X containing only connective tissue.**

## V. DISCUSSION

A frequent benign nodular growth known as fibroepithelial hyperplasia (fibrous polyp), commonly referred to as an irritation fibroma, a trauma fibroma, or fibrous hyperplasia, histologically exhibits hyperplastic parakeratinized stratified squamous epithelium with fibrous connective tissue<sup>5</sup>. It might or might not have no symptoms. It is primarily brought on by chronic irritants such biting of the cheeks or lips, pain from a sharp tooth, dentures, or other dental prosthetics. Chronic biting, foreign objects, pointed cusps, and overhanging restorative edges may be present if it hurts. They are benign, and the main cause of recurrence is persistent irritability. In this case report, traumatic fibroma development was caused by a removable prosthesis in relation to 12. If the slow-growing tumour is isolated, there are two possible treatments: traditional surgical excision and laser surgery. Typical surgery might result in discomfort, blood issues, and scarring. The majority of minor soft tissue lesions can be treated using laser ablation, a non-invasive technique that also protects the nearby critical tissues. The patient in this case did not report any bleeding or pain following laser therapy. Epithelialization from the wound's edges initiates wound healing, which takes around 3–4 weeks<sup>6</sup>.

In order to determine the frequency and type of the most prevalent benign tumours of the oral mucosa as well as the clinical traits and potential etiological variables, Santiago Torres Domingo et al. undertook a study in 2008. In a study of 300 patients with benign tumours of the oral mucosa, 153 (53.3 percent) of the patients had fibromas, proving that this is the most common type of benign tumour in the oral cavity<sup>7</sup>.

In a study comparing the use of diode lasers and traditional scalpel surgery for the biopsy of soft lesions in the oral cavity, Gabric et al. found that patients who received laser treatment experienced significantly lower rates of oedema, bleeding, and hematoma formation as well as faster healing and less pain than those who received scalpel surgery<sup>8</sup>. The patients who were treated with lasers had decreased postoperative discomfort and no recurrence in the 1-year follow-up period, according to Ramwala et al studies to ascertain the effectiveness of diode laser in the management of oral premalignant lesions<sup>9</sup>.

## VI. CONCLUSION

The use of lasers to treat large oral fibrotic lesions has proven to be more effective than other methods, with no postoperative complications and a bloodless operating field. The patient was happy with the results of the treatment and no recurrence was seen during follow-up visits.

The case report presented here demonstrated the diode laser's high level of effectiveness. The protocol calls for the use of a reasonably easy-to-use and secure technique called a diode laser. A clean, thin, and quick cut could be made with ease using the fiberoptic tip in conjunction with the advantages of the diode laser, frequently without bleeding or scarring. We were able to achieve great healing in a few days, even without surgical suturing, because to the sterilising and tissue growth encouraging qualities of the laser.

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