***Case report***

# Multiple inflammatory fibrous hyperplasia in upper lip: A case report


## ABSTRACT

**Aims:** This study aimed to report a case of multiple inflammatory fibrous hyperplasia in the upper lip, resulting from the association of lip sucking habit and the use of orthodontic appliance, treated with high-powered laser.
**Presentation of case:** A 42 years-old male patient, anxious, presented with five lesions in upper lip in close contact with dental appliance. Also, he had a habit of sucking his lip. After the removal of the appliance, it was performed a surgery using a diode laser (Thera Lase Surgery λ=808 nm, P=2.5W).
**Discussion**: The removal of the traumatic etiological agent is essential for the treatment of proliferative lesions, such as hyperplasias. After removal, if there is no complete regression of a small hyperplasia, surgical removal will be necessary. Diode surgical laser is a good alternative, due its advantages.
**Conclusion:** It is very important to advise patients with harmful habits, as lip sucking, that with the persistence of the habit, new lesions will arise again. Monitoring psychological factors is also essential.



*Keywords: Traumatic Injury, Hyperplasia; Oral Mucosa, Lip Sucking.*


## 1. INTRODUCTION

The oral cavity is considered a very vulnerable site to different conditions, such as trauma. The presence of a long-lasting, low-intensity trauma leads to the emergence of non-neoplastic proliferative lesions, such as inflammatory fibrous hyperplasia or irritation fibroma. Inflamatory fibrous hyperplasia is a benign, exophytic reactive oral lesion that develops secondary to injury [1], and it a quite prevalent in the elderly population, being associated with the trauma of using poorly adapted removable prostheses [2,3].

The aim of this study was to report a clinical case of multiple inflammatory fibrous hyperplasia in the upper lip caused by an association of trauma.

## 2. PRESENTATION OF CASE

Male patient; 42 years-old; cabby; user with a fixed orthodontic appliance for a year and a half (without maintenance), attended the UEPB Advanced Stomatology Clinic with complaints of lesions on his lip. Patient also reported being anxious. On intra-oral examination, five papules were observed in the upper labial mucosa, with approximately 0.7cm each, all in close contact with the brackets of the device (Figure 1), traumatizing his mucosa. The patient has malocclusion (protusion). The patient was instructed to put wax on the brackets, to remove the trauma and also to avoid the habit of sucking the upper lip. He was referred to his orthodontist for reassessment. The patient returned a week later, with a quite small regression of the lesions (Figure 2). At the patient's choice, he removed his appliance at the orthodontist, due to the lack of socioeconomic conditions to continue the treatment. Patient returned to the Service three weeks after removal of the device, with

persistent lesions (Figure 3). It was then decided to remove the hyperplasia with the aid of a diode surgical laser (Thera Lase Surgery, DMC, São Carlos, Brazil, λ=808 nm, P=2.5W, 0,4mm diameter optical fiber), in a continuous mode, a single session, under local anesthesia, with 5mm safety margin, without any complications (Figure 4) [4]. The histopathological report confirmed the diagnosis of inflammatory fibrous hyperplasia. One month later, the mucosa was completely healed (Figure 5), and the patient is being followed-up by the Service, with the constant guidance that if the habit returns, new injuries may arise. The patient was also instructed to undergo orthodontic and psychological monitoring.

The patient signed the Informed Consent Form, when filling out the Dental record, and his privacy was protected. This case report was not submitted to the ethics committee, but it has been performed in accordance with the ethical standards laid down in the 1964 Declaration of Helsinki.

Figure 1- Initial intraoral exam.

Figure 2: Reevaluation after one week using wax on the brackets.

Figure 3: Persistence of lesions, three weeks after removal of the orthodontic appliance.

Figure 4: Immediate postoperative.

Figure 5: One month postoperatively.

## 3. DISCUSSION

The presence of frequent trauma to the mucosa, such as the habit of sucking, can cause injuries, especially when in the presence of another irritating factor, such as an orthodontic appliance. The best conduct is the cause removal (habit interruption and minimizing the trauma of the device, with wax on the brackets). Lalchandani et al. [5] reported a case with a recurrence of a traumatic fibroma on the anterior palatal region, after a year from the surgical procedure due to failure of addressing the irritant in the previous treatment. Depending on the size of the lesion, it may regress if the trauma ceases. However, the patient himself of the present case decided to remove the orthodontic appliance, for financial reasons, which helped to reduce the trauma caused by the appliance. However, with that removal, malocclusion (overjet) has not been corrected, and the patient was advised to replace the device as soon as possible. Despite the removal of orthodontic appliance, the lesion barely regressed, probably due to persistent suction trauma, caused by patient's anxiety. In childhood, the habit of lip sucking is rarer compared to other oral harmful habits, but any kind of abnormal sucking habits may cause malocclusion. Sucking habits is caused by environmental and psychological factors [6]. In this present case, the lip sucking habit was

the consequence of the patient's anxiety associated with his malocclusion. The overjet probably may have been the result of a finger sucking in the patient's childhood.

The patient reported being uncomfortable with the presence of the lesions, which led to option of removing them, with high-power diode laser, due its advantages over the traditional excisional biopsy. The surgical laser has reduced surgical time and cause local clotting, making the suture unnecessary and greater post-surgical comfort for the patient [4,7-10]. According Çayan et al. [10], diode laser has offered some advantages, over scalpel surgery, in the management of inflammatory fibrous hyperplasia, as lower bleeding. For those reasons, the use of lasers in surgical procedures offers a less stressful intervention, with a reduction in the patient's anxiety and fear [11]. Also, patients treated with laser had less postoperative discomfort and pain [12]

## 4. CONCLUSION

After surgical intervention of benign proliferative lesions as hyperplasias, it is important to advise patients with harmful habits that with the persistence of the habit, new lesions will appear. Other problems, as anxiety should be monitored and treated, for the whole treatment to be completely successful.

## CONSENT (WHERE EVER APPLICABLE)

All authors declare that written informed consent was obtained from the patient (or other approved parties) for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editorial office/Chief Editor/Editorial Board members of this journal.

## ETHICAL APPROVAL

All authors hereby declare that this case report has been performed in accordance with the ethical standards laid down in the 1964 Declaration of Helsinki.

## REFERENCES

[1] Scully C, Dios PD, Taylor AM, Almeida OP. Swellings: Reactive lesions. In: Oral medicine and pathology at a glance. Oxford: Blackwell Publishing; 2010.

[2] Espinoza I, Rojas R, Aranda W, Gamonal J. Prevalence of oral mucosal lesions in elderly people in Santiago, Chile. J Oral Pathol Med 2003;32(10):571-5.

[3] Dundar N, Ilhan Kal B. Oral mucosal conditions and risk factors among elderly in a Turkish school of dentistry. Gerontology. 2007;53(3):165-72.

[4] Neves LEM, Carvalho SHG, Sarmento DJS, Pereira JS, Agripino GG, Marinho SA. Giant-cell fibroma removal with surgical laser. Rev Cub Estomatol. 2018;55(4): 1-10. [In Portuguese].

[5] Lalchandani CM, Tandon S, Rai TS, *et al.* Recurrent irritation fibroma-"What lies beneath": A multidisciplinary treatment approach. Int J Clin Pediatr Dent. 2020;13(3):306-9.

[6] Joelijanto R. Oral habits that cause malocclusion problems IDJ. 2012;1(2):86- 92.

[7] Bakhtiari S, Taheri JB, Sehhatpour M, Asnaashari M, Moghadam SA. Removal of an Extra-large Irritation Fibroma With a Combination of Diode Laser and Scalpel. J Lasers Med Sci. 2015;6(4):182-4.

[8] Kalburgi V, Jain S, Raghuwanshi S. Surgical diode laser excision for cellular fibroma. J Dent Lasers. 2016;10(1):28-31.

[9] Kaur M, Sharma YPD, Singh P, Sharma S, Wahi A. Comparative evaluation of efficacy and soft tissue wound healing using diode laser (810 nm) versus conventional scalpel technique for second-stage implant surgery. J Ind Soc Periodontol. 2018;22(3):228-34.

[10] Çayan T, Hasanoğlu Erbaşar GN, Akca G, Kahraman S. Comparative evaluation of diode laser and scalpel surgery in the treatment of inflammatory fibrous hyperplasia: A split-mouth study. Photobiomodul Photomed Laser Surg. 2019;37(2):91-8.

[11] Sotoode SM, Azimi S, Taheri AS, 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.

[12] Kumar R, Jain G, Dhodapkar SV, Kumathalli KI, Jaiswal G. The comparative evaluation of patient's satisfaction and comfort level by diode laser and scalpel in the management of mucogingival anomalies. J Clin Diagn Res. 2015;9(10):ZC56-8.