

Neurofibroma of Tongue: Solitary Lesion

Vidya Hari Iyer, Padmapriya Ramalingam, Elakya Nagadevan

ABSTRACT

Neurofibroma is an uncommon benign tumor of the oral cavity derived from the cells that constitute the nerve sheath. The cases of oral cavity involvement by a solitary and peripheral plexiform neurofibroma in patients with no other signs of neurofibromatosis is uncommon. Sporadic cases have been reported in the submandibular gland, tongue and on the periosteum at the mental foramen. The World Health Organization (WHO) has subdivided neurofibromas into two broad categories: dermal and plexiform. The dermal neurofibromas arise from a single peripheral nerve, while the plexiform neurofibromas are associated with multiple nerve bundles. The aim of this paper is to analyze the effectiveness of diode laser in the treatment of neurofibroma of a solitary lesion on the tongue. The advantages of using lasers in this case report was a bloodless and painless experience for the patient with excellent healing of the operated site after a period of 1 week.

Keywords: Neurofibroma tongue, Diode laser excision, Neurofibroma treatment.

How to cite this article: Iyer VH, Ramalingam P, Nagadevan E. Neurofibroma of Tongue: Solitary Lesion. *Int J Laser Dent* 2012;2(2):56-58.

Source of support: Nil

Conflict of interest: None

INTRODUCTION

Neurofibroma is an uncommon benign tumor of the oral cavity derived from the cells that constitute the nerve sheath. Localized or solitary neurofibroma is the most frequent manifestation and develops along a peripheral nerve as a focal mass with well-defined margins but is never encapsulated. It is seen either as a solitary lesion or as a part of the generalized syndrome of neurofibromatosis, called as the Von Recklinghausen disease of the skin. The solitary form has absence of the systemic and hereditary factors,¹ present in the disseminated form. Localized or solitary neurofibroma is rare in infancy and typically appears in late childhood or during teenage years. Neurofibromas of the oral cavity are frequently found on the tongue. The oral lesions seldom transform into sarcoma but may become large enough to interfere with the proper functioning of the tongue, which may be a hindrance to the patient.

MATERIALS AND METHODS

Diode 940 nm [Ezlase, Biolase, USA] was used for this case. It is a solid state soft tissue laser with GaAlAs as the medium and is a class IV laser.⁴ A 400 μ m surgical disposable tip was initiated prior to using it for excision of

the overgrowth. All universal precautions of laser safety were followed prior to and during the procedure.

CASE REPORT

A 34-year-old female patient came to our practice with a chief complaint of a growth on the dorsal surface of the tongue²⁻⁵ for past 15 years (Fig. 1). The growth was solitary in nature and localized with no systemic and hereditary factors. The lesion was 1 \times 1 cm, non-tender, firm, non-fluctuant with no evident discharge seen and had gradually increased to the present size (Fig. 2). The lesion was then provisionally diagnosed as traumatic fibroma.

The options available for excision included conventional scalpel method, electrocautery and erbium or diode laser excision. Conventional method was ruled out due to the

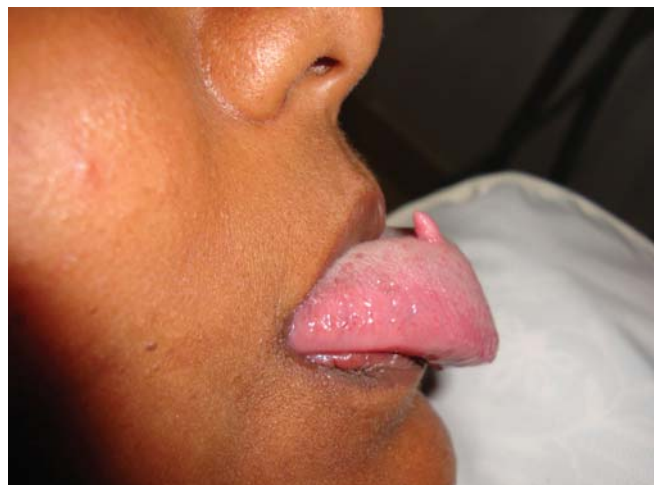


Fig. 1: Preoperative lateral view of an overgrowth over the dorsum surface of the tongue

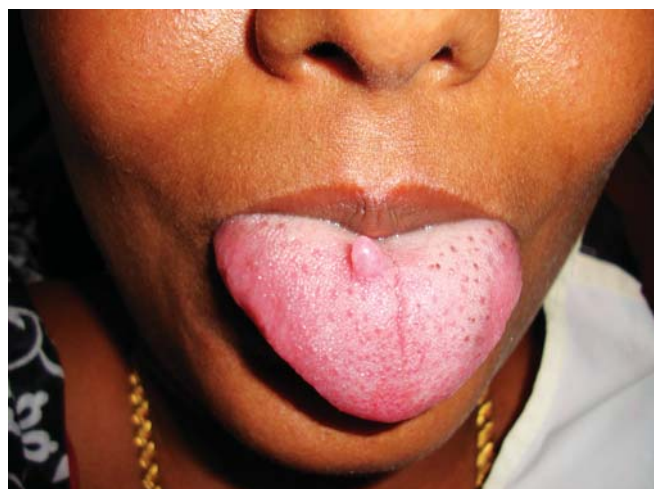


Fig. 2: Preoperative view showing the triangular overgrowth

anatomical limitations. Electrocautery needs minimal administration of local anesthesia and also shows some bleeding and pain during the procedure. Erbium or diode laser was most conducive as the procedure could be carried out with minimal bleeding, minimal injection, no suturing and minimal pain. Diode had an edge as tissue welding could be carried out along with excision especially at the vital site.

Diode laser was then used as the treatment of choice for excision (Fig. 3) with a 400 μm surgical tip. Excisional biopsy has always been the gold standard in diagnosis of suspicious lesions.

The patient was informed about the laser excision. The diode laser settings used for this patient was 1 W, continuous wave (Fig. 4). No topical anesthesia was administered. The lesion was excised and sent for histopathological examination. The patient did not experience any pain or bleeding (Fig. 5) during the procedure. She was recalled after 1 day to evaluate the healing. The patient exhibited good postoperative healing (Figs 6 to 8).

RESULTS

Histopathology report (Fig. 9) was suggestive of neurofibroma. These tumors are derived from Schwann cells, fibroblast and occasionally perineural cells. Microscopic cellular pattern of neurofibroma showed, delicate spindle cells with elongated slender, and sometimes wavy nuclei arranged in a loose, disorganized pattern. Fibrous stands are numerous within the lesions, which stain positively for reticulin and collagen.

DISCUSSION

This tumor is typically observed in young adults and presents as a slow growing, soft, painless lesion. Although this tumor



Fig. 4: Diode laser settings 1 W, continuous wave



Fig. 5: Immediate postoperative view after complete excision of the overgrowth

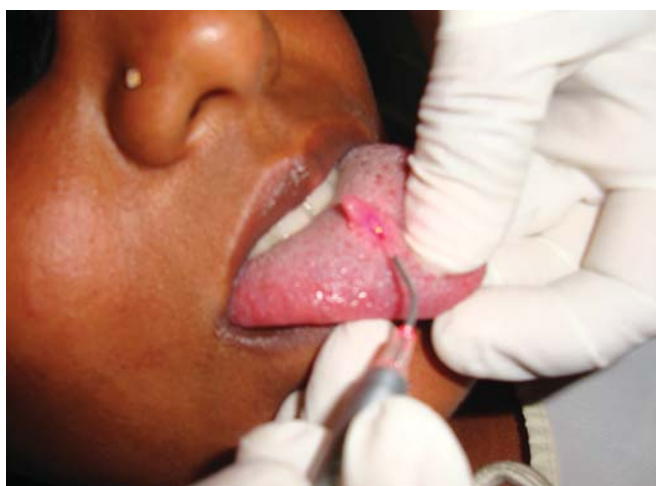


Fig. 3: Lasing done with Diode (940 nm Ezlase, Biolase, USA) using universal precautions



Fig. 6: One day postoperative view showing laser coagulum



Fig. 7: Three days postoperative view showing laser healing

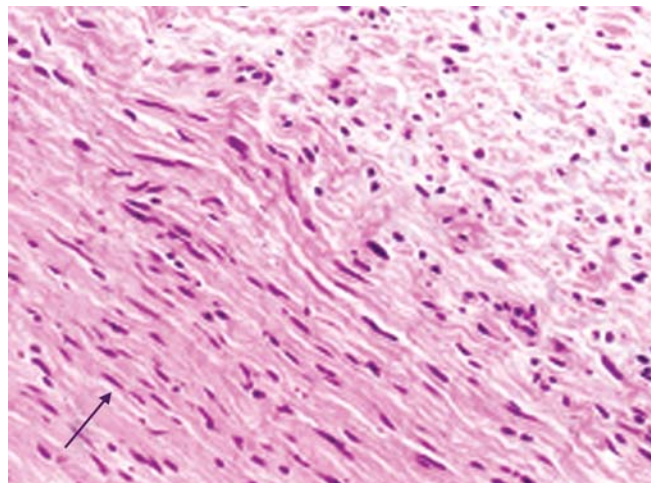


Fig. 9: Histopathological view of neurofibroma



Fig. 8: One week postoperative lateral view of tongue showing complete healing

is most commonly observed on the skin, it can be observed intraorally over the tongue and buccal mucosa. There is no gender predilection. Treatment of solitary neurofibroma, not associated with any syndrome is surgical excision, with minimal risk of recurrence.

CONCLUSION

This case when treated with diode laser had shown excellent healing and no recurrence and hence, can be used as an effective treatment option. Excision of neurofibroma of tongue is very challenging, as the tongue is a highly muscular organ and is anatomically surrounded by vital

structures. Laser dentistry has proved to be a helpful tool in treating such challenging cases.

REFERENCES

1. Rosenbaum T, Patrie KM. Nancy ratner neurofibromatosis type 1: Genetic and cellular mechanisms of peripheral nerve tumor formation. *Neuroscientist* 1997 Nov; 3(6):412-20.
2. Alatil C, Oncer B, Uner M, Erseven G. Solitary plexiform neurofibroma of oral cavity: A case report. *Internat J Oral Maxillofacial Surg* 1996;25:378-80.
3. Sohata JS, Vishwanathan A, Nayak DR, Hazarika P. Neurofibroma of tongue. *Internat J Paed Otorhinolaryngol* 1996; 34:153-57.
4. Sharma SC, Srinivasan S. Isolated plexiform neurofibroma of tongue and oropharynx: A rare manifestation of von Recklinghausen's disease. *J Otolaryngol* 1998 Apr;27(2): 81-84.
5. Güneri EA, Akoğlu E, Sütay S, Ceryan K, Sağol O, Pabuçcuoğlu U. Plexiform neurofibroma of the tongue: A case report of a child. *Turk J Pediatr* 2006 Apr-Jun;48(2):155-58.

ABOUT THE AUTHORS

Vidyaa Hari Iyer (Corresponding Author)

Private Practitioner, Smile Dental Clinic, T Nagar, Chennai, Tamil Nadu India, e-mail: vidyaahari@gmail.com

Padmapriya Ramalingam

Private Practitioner, Smile Dental Clinic, Chennai, Tamil Nadu, India

Elakya Nagadevan

Private Practitioner, Smile Dental Clinic, Chennai, Tamil Nadu, India