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Traumatic neuroma of the lower lip



KEYWORDS

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Histopathological
features

The traumatic neuroma is a non-neoplastic reparative/reactive lesion of an injured nerve, which is composed mainly of rapidly proliferating axons and Schwann cells in a dense or loose fibrous connective tissue stroma.^{1–4} This article presented a case of traumatic neuroma of the left lower lip in a 40-year-old male patient.

This 40-year-old male patient was referred to our oral mucosal disease clinic by a local dentist for treatment of a pink lesion in the submucosa of the left lower labial mucosa for a 2-month duration. The pink lesion measuring $0.8 \times 0.6 \times 0.3$ cm was soft, well-defined, and slightly elevated with a smooth mucosal surface. No pain was noted upon touching the mucosal surface of the lesion. Because the patient had excision of a mucocele at the same labial mucosal location, the primary clinical impression was a recurrent mucocele. After discussing with the patient and obtaining the signed informed consent, the pink lesion was totally excised under local anesthesia. The removed soft tissue specimen was sent for histopathological examination. Microscopically, no surface stratified squamous epithelium was included in the specimen. In the submucosa, there was a fibrous mass surrounded by three small lobules of minor salivary glands (Fig. 1A). The fibrous mass was composed of a haphazard proliferation of mature longitudinally- and cross-sectioned nerve bundles in a loose connective tissue stroma (Fig. 1B). The longitudinally-sectioned nerve bundles comprised several rows of proliferating Schwann cells with wavy nuclei along the nerve bundles (Fig. 1C, D and E) and the cross-sectioned nerve bundles consisted of several groups of Schwann cells with

dot-like nuclei (Fig. 1F, G and H). The axons could be identified as small eosinophilic dots surrounded by a halo of clear space and were not difficult to be found in both longitudinally- and cross-sectioned nerve bundles (Fig. 1E and H). The adjacent minor salivary glands revealed slightly dilated ducts and a very mild lymphoplasmic cell infiltrate in the periductal and perivascular connective tissues. The aforementioned characteristic microscopic findings of the lesion finally confirmed the histopathological diagnosis of a traumatic neuroma. The traumatic neuroma of the left lower lip did not recur 6 months after the total surgical excision.

In this case report, our patient had a history of excision of a mucocele at the same surgical site, suggesting that the occurrence of the traumatic neuroma may be related to the transection or damage of a nerve bundle in the left lower labial mucosa during the previous surgical treatment. The literature documents cases where a traumatic neuroma in the lower lip arises following the surgical treatment of a mucocele.^{2,3} Moreover, traumatic neuromas have been found alongside the recurrent mucoceles. However, in this case, no recurrent mucocele was found - only a traumatic neuroma - despite the initial clinical impression that our patient had a recurrent mucocele.

Tamiolakis et al.⁴ analyzed the clinicopathologic features of 157 cases of oral neural tumors diagnosed in a single oral pathology department and found that 25 (15.9%) of these 157 cases are traumatic neuromas. These 25 oral traumatic neuromas occur in 10 male and 15 female patients, with a male-to-female ratio of 0.7:1. Among the 24

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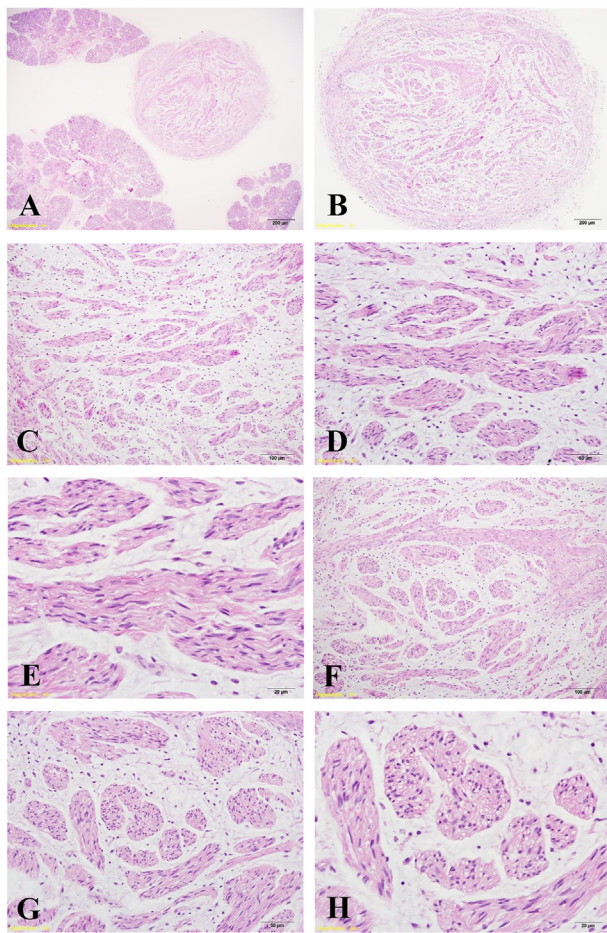


Figure 1 Histopathological photomicrographs of our case of traumatic neuroma of the lower lip. (A) Low-power photomicrograph showing a fibrous mass surrounded by three small lobules of minor salivary glands in the submucosa. (B) Low-power photomicrograph exhibiting the fibrous mass composed of a haphazard proliferation of mature longitudinally- and cross-sectioned nerve bundles in a loose connective tissue stroma. (C, D and E) Low-, medium-, and high-power photomicrographs revealing the longitudinally-sectioned nerve bundles which comprised several rows of proliferating Schwann cells with wavy nuclei. (F, G and H) Low-, medium-, and high-power photomicrographs demonstrating the cross-sectioned nerve bundles which consisted of several groups of Schwann cells with dot-like nuclei. (E and H) High-power photomicrographs showing that the axons could be identified as small eosinophilic dots surrounded by a halo of clear space and were not difficult to be found in both longitudinally- and cross-sectioned nerve bundles. (Hematoxylin and eosin stain; original magnification; A, 2×; B, 4×; C and F, 10×; D and G, 20×; E and H, 40×).

oral traumatic neuroma cases where the location of occurrence is specified, 12 are on the tongue, 5 on the labial mucosa, 3 on the hard palate, 2 in the mandible, and one each on the buccal mucosa and alveolar mucosa, indicating that the labial mucosa is the second most common site for the oral traumatic neuromas. Of the 21 patients with oral traumatic neuromas who report associated

symptoms, only 4 complain of varying degrees of pain.⁴ Although pain has traditionally been considered a hallmark of oral traumatic neuromas, studies indicate that only one-fourth to one-third of these traumatic neuromas are frequently painful. Additionally, traumatic neuromas with inflammation are more likely to be painful than those without significant inflammation.¹ In this case, no inflammation was detected in the tumor tissue of our traumatic neuroma, which explains why our patient had no complaint of pain.

Declaration of competing interest

The authors have no conflicts of interest relevant to this article.

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Andy Sun[†]

Department of Dentistry, National Taiwan University Hospital, College of Medicine, National Taiwan University, Taipei, Taiwan

Ming-Jay Hwang[†]

Department of Dentistry, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan

Yi-Pang Lee^{**}

Department of Dentistry, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan

Chun-Pin Chiang^{*}

Department of Dentistry, National Taiwan University Hospital, College of Medicine, National Taiwan University, Taipei, Taiwan

Department of Dentistry, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan
Graduate Institute of Oral Biology, School of Dentistry, National Taiwan University, Taipei, Taiwan

^{**}Corresponding author. Department of Dentistry, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, No. 707, Section 3, Chung-Yang Road, Hualien 970, Taiwan. E-mail address: bonbonlee20140516@gmail.com (Y.-P. Lee)

*Corresponding author. Department of Dentistry, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, No. 707, Section 3, Chung-Yang Road, Hualien 970, Taiwan.
E-mail address: cpchiang@ntu.edu.tw (C.-P. Chiang)

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[†] These two authors had equal contribution to this study.