



A Gingival Post-Traumatic Neuroma

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Received: Mar 06, 2023

Accepted: Apr 12, 2023

Published Online: Apr 17, 2023

Journal: Journal of Radiology and Medical Imaging

Publisher: MedDocs Publishers LLC

Online edition: <http://meddocsonline.org/>

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Keywords: CT scan; MRI; Post-traumatic neuroma; Nerve injury; Oral benign lesion.

Teaching Point

The post-traumatic neuroma is a rare but benign lesion that can be easily treated if recognized and should be differentiated from a neoplasm.

Case

We report the case of a 19-year-old male patient, presenting to emergency for painful swelling of his right inferior gum, causing functional discomfort.

Intraoral examination revealed a right gingival submucosal nodular lesion, next to teeth 47 and 48, covered by normal mucosa, movable and painless on pressure (**Figure 1**).



Figure 1



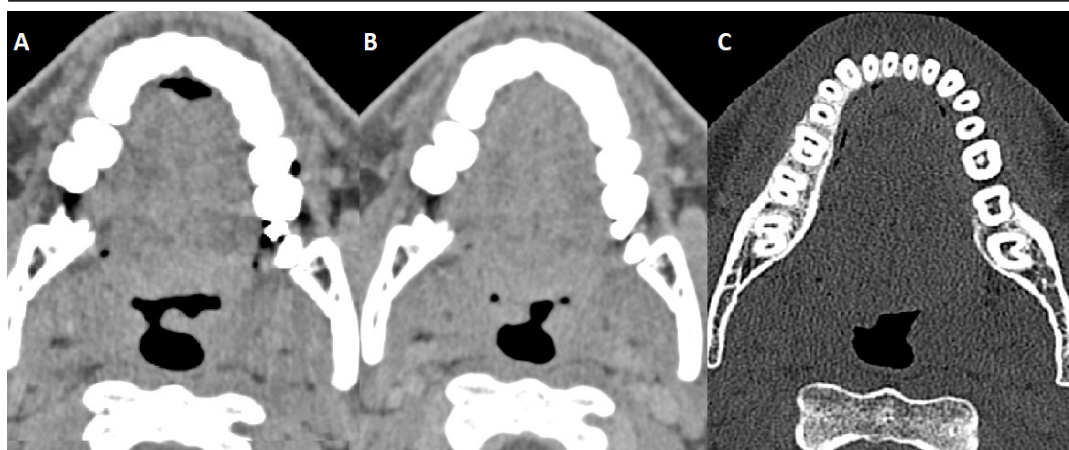


Figure 2

A history of prior (3 years) gingival laser surgery was reported, followed by the appearance of an indolent swelling of the gingiva, which gradually increased in size.

A facial CT scan (**Figure 2**) was performed, before and after injection of contrast product. The lesion appeared as a right oval gingival mass, next to teeth 47 and 48, with regular contours and parenchymal density (**A**), enhancing slightly and homogeneously (**B**). No erosion, nor remodeling of the adjacent bone were detected at bone reformat images (**C**). Lacking radiologic malignant features, the mass was interpreted as a benign, non-specific, gingival lesion.

The MRI (**Figure 3**) confirmed the presence of an oval, well demarcated, homogeneous mass, measuring 29 x 26 mm in axial, next to teeth 47 and 48, iso-intense on T1-weighted imaging (**A**), hyperintense on T2-weighted imaging (**B**), avidly enhancing after injection of gadolinium (**C**). No necrosis, nor signs of local infiltration were detected. A suspicion of post-traumatic neuroma was raised.

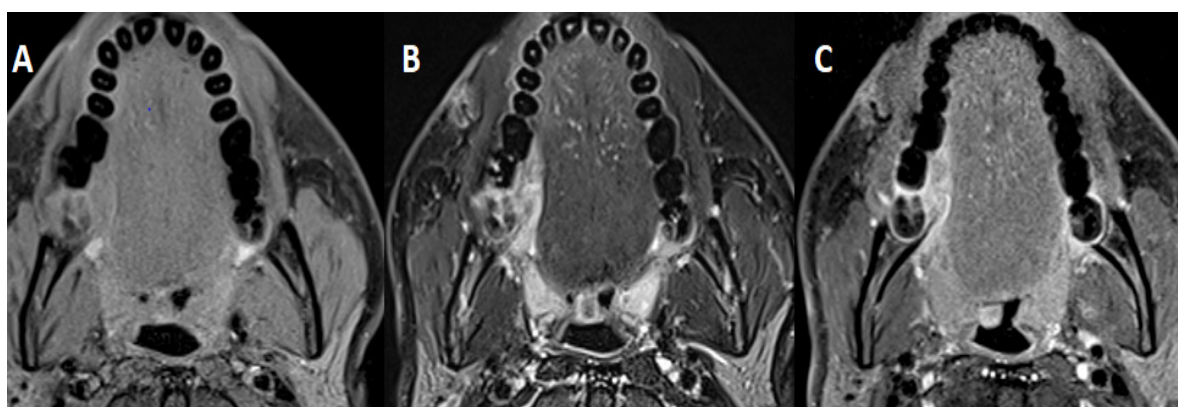


Figure 3

A biopsy revealed fragments of squamous epithelium, supported by a fibrous chorion, traversed by a proliferation of fusiform cells, sometimes arranged in wavy bundles, sometimes in neuroid structures, presenting nuclei with a stretched appearance. The Immunohistochemical analysis confirmed the diagnosis of a post-traumatic neuroma.

The patient was treated with local anesthetic therapy, pending surgical excision of the lesion.

Discussion

Post-traumatic neuroma is a non-neoplastic mass, formed by disorganized neural tissue, which may occur after a nerve injury and a failed attempt at nerve tissue regeneration. It may take several months for this lesion to form.

It can represent a diagnostic challenge, both for clinicians and radiologists, due to the complex features that may mimic other entities.

It usually presents as a solitary mucosal swelling, located mainly in the soft tissues, along a nerve path, preferentially in

the head and neck.

It usually appears as a well demarcated, homogeneous mass, with hypersignal T2 and variable enhancement on MRI, without bony erosion at CT.

Even though only a biopsy brings the diagnosis of certainty, the trauma history and the symptoms of pain may allow to evoke the diagnosis.

The most effective treatment is tumor excision but anesthetic injection and/or alcoholic ablation can be performed, relying on the center expertise.

Competing interests

The authors have no competing interests to declare.

References

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