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CASE STUDY

First-bite syndrome

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KEYWORDS
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Abstract
First-bite syndrome consists of the appearance of pain in the parotid at the beginning of mastication, due to damage to the cervical sympathetic chain or the sympathetic plexus innervating the parotid gland. Clinical presentation in a patient who has undergone surgery of the parapharyngeal space suggests the diagnosis.
We report here the case of a patient who presented first bite syndrome after being operated on for a cervical sympathetic chain schwannoma.

PALABRAS CLAVE
Síndrome del primer mordisco;
Schwannoma de cadena simpática cervical;
Tumores parafaríngeos

El síndrome del primer mordisco

Resumen
El síndrome del primer mordisco consiste en la aparición de dolor en la parótida al inicio de la masticación, por lesión de la cadena simpática cervical o del plexo simpático que inerva la parótida. El diagnóstico es fundamentalmente clínico en un paciente con antecedentes de cirugía del espacio parafaríngeo.
Presentamos un paciente con síndrome del primer mordisco tras ser intervenido de schwannoma del simpático cervical.

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Clinical report

Male patient, 48 years of age without any noteworthy prior history, referred for evaluation of left parapharyngeal tumour, 4 cm in diameter, considered following cervical computer tomography and magnetic resonance (Figure) to be a probable neurogenic tumour of the cervical sympathetic or left vagus nerve. The patient did not present Claude-Bernard-Horner syndrome or dysphonia and the analyses and urine catecholamines were normal. The tumour, attached to the cervical sympathetic nerve was excised and was reported as a schwannoma.

Onset of left Claude-Bernard-Horner syndrome in the immediate postoperative period, together with pain in the left parotid gland, especially during meals and mastication, which was more intense with hot and acidic foods.

With a diagnostic orientation of first-bite syndrome (FBS), treatment with carbamazepine was ordered, 100 mg/12 h for 15 days, without improvement. After 18 months, the Claude-Bernard-Horner syndrome persisted, together with a less intense FBS.

Figure Magnetic resonance imaging: schwannoma of the cervical sympathetic nerve.

Discussion

FBS consists in the onset of pain in the parotid region, described as an intense spasm in the first mastication of food, and which can take place after surgery in the parapharyngeal space.[1,2]

It was described by Netterville et al[3] in 1993 in a review of surgical complications of the base of the skull, due to the injury of the cervical sympathetic nerves.

The prevalence of this syndrome is not known, as it is a complication which is poorly documented. In a review of 46 vagal paragangliomas,[4] nine patients were identified who suffered post-surgery FBS, and Chiu et al[1] found 12 cases in another review.

The cervical sympathetic chain can be damaged in various types of surgery of the cervical and parapharyngeal space.[1,5] In the postoperative period, Claude-Bernard-Horner syndrome appears, due to loss of sympathetic innervation of the eyeball, the eyelid and the orbit, which can be accompanied by FBS through affectation of the innervation of the parotid gland.[1,3] An isolated FBS may also appear by selective sympathectomy of the parotid gland due to ligature of the external carotid.[1]

It is believed that the loss of sympathetic parotid innervation leads to a supra-sensitive denervation of the sympathetic receptors which control the myoepithelial cells.[4] Mastication produces a secretion of parasympathetic neurotransmitters, which would cross-stimulate the sympathetic receptors causing a supra-maximal response of these cells,[2] thereby causing the pain of this syndrome.

Clinically, it presents as parotid and mandibular pain, with radiation to the ear, lasting for several seconds after the first bite in a meal.[1] Symptoms are worse in the first meal of the day and the first bite, and improve thereafter.[1]

Treatment consists of dietary modifications and treatment with carbamazepine (100-200 mg/12 h).[3] Surgical treatment has been suggested, by section of the parasympathetic parotid innervation, such as the neurectomy of the Jacobson plexus[1] or the section of the auriculotemporal nerve.[4] In many cases, the symptoms persist after medical and surgical treatments, although they tend to improve significantly with time.[3]

Conflict of interests

The authors have indicated there is no conflict of interest.

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