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Unilateral Tongue Atrophy and Myosteatosis: A Late Surgical Complication

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Abstract

Unilateral damage to the hypoglossal nerve can lead to hypomobility of half of the tongue. Cases of isolated damage to the hypoglossus are rare. Possible causes of isolated unilateral hypoglossal nerve palsy include neoplasms, trauma, infections, endocrine, autoimmune, vascular, iatrogenic, and idiopathic causes. In some cases, there may be an adipose infiltration of the tongue after the muscle atrophy (myosteatosis).

The authors present a case of an 89-year-old woman that was referred to Otolaryngology department due to dysphagia. She had history of dementia and neurosurgery of a left acoustic neuroma in the past. Oral cavity examination demonstrated a swelling of the left half of the tongue, with a regular surface and elastic consistency, with ipsilateral paralysis. A CT scan revealed fat atrophy of the intrinsic muscles of the tongue on the left, with bulging of the base. Considering the imaging findings biopsy was not performed. In this case, it was essential to evaluate the patient's personal history and imaging findings to establish the etiology of the swelling and tongue hypomobility.

The otolaryngologist must take in account neurogenic unilateral atrophy of the tongue with myosteatosis as a possible differential diagnosis in tongue swellings.

Keywords: Unilateral hypoglossal nerve palsy, Neurogenic muscular atrophy, Myosteatosis, Acoustic neuroma, Neurosurgery

Introduction:

The hypoglossal nerve (XII), a purely motor nerve, originates at the base of the 4th ventricle, ending in the extrinsic and intrinsic muscles of the tongue, except for the palatoglossus muscle. It is responsible for the movement and shape of the tongue, playing a vital role in swallowing and speaking [1].

The lesion of the hypoglossal nerve may be associated with hypomobility of half of the tongue. Cases of isolated damage to the hypoglossus are rare. Possible causes include neoplasms, trauma, infections, endocrine, autoimmune, vascular, iatrogenic, and idiopathic causes [2]. In some rare cases, adipose infiltration (myosteatosis) may occur after the muscle atrophy [3].

This paper presents a case of unilateral neurogenic atrophy of the tongue, with myosteatosis, after hypoglossal nerve injury in an acoustic schwannoma neurosurgery.

Case Report:

A female patient of 89 years old was referred to the Otorhinolaryngology department with worsening dysphagia. She had a history of severe degree dementia of mixed etiology (alcoholic, degenerative and vascular) and left acoustic neuroma neurosurgery, over 30 years ago.

Physical examination revealed swelling of the left half of the tongue, with regular surface and elastic consistency and ipsilateral tongue palsy.

Fiberoptic endoscopic evaluation of swallowing showed dysphagia mainly attributed to pharyngolaryngeal dysmotility related to the dementia, with little contribution from lingual dysmotility.

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A CT scan of the head revealed myosteatosis of the intrinsic muscles of the tongue on the left (arrows), with bulging of the ipsilateral tongue base.

Considering the imaging findings biopsy was not performed.

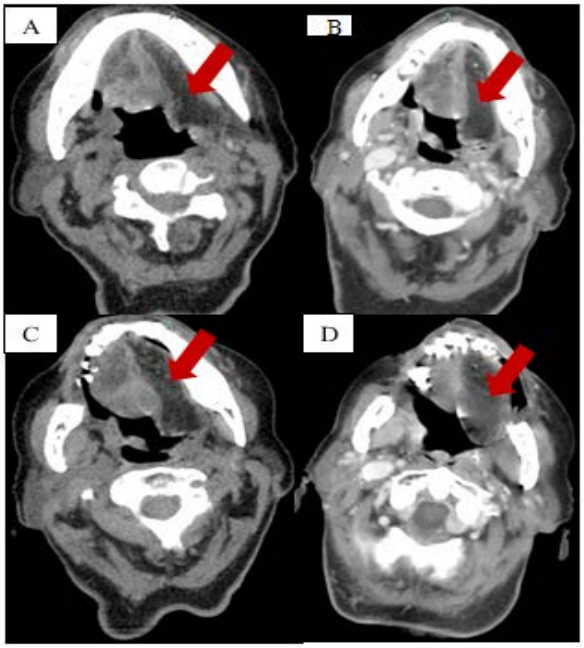

Figure 1: Contrast CT scan of the head, axial view (A, B, C, D), reveals fat-containing lesion in the left half of the tongue (arrows), defined as an area of low attenuation.

Discussion:

Unilateral hypoglossal nerve damage has several possible etiologies. In the initial phase of the injury, a pattern of tissue edema is usually observed, followed by muscle atrophy and muscle replacement by adipose tissue in chronic and prolonged cases [3]. It is common to observe in these patients a swelling of the base of the tongue that may be confused by a tumor.

In this case it was essential to evaluate the patient's personal history and imaging findings to establish the etiology of the swelling and hypoglossal nerve palsy, thus avoiding an unnecessary biopsy.

Conclusion**:**

The otolaryngologist must take in account neurogenic unilateral atrophy of the tongue with myosteatosis as a possible differential diagnosis in tongue swellings.

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PMG: patient management with JBC and NO and wrote the drafts and final article.

Conflict of Interest:

No conflict of interest was declared by the author.

Ethical Approval:

The study has been approved by the appropriate ethics. Published with consent of the patient family.

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