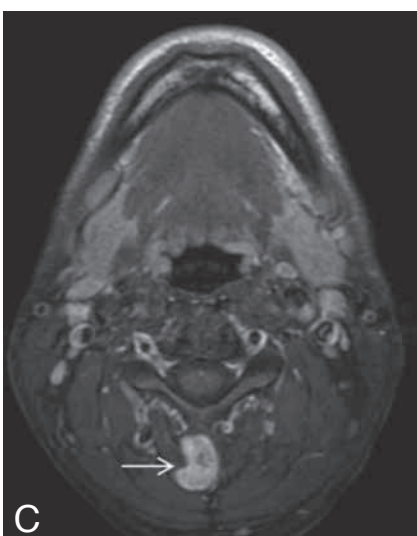
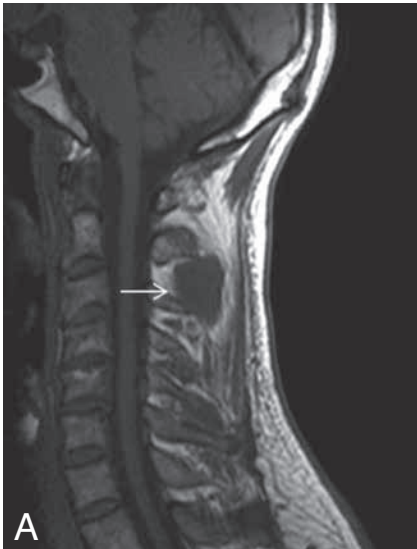


IMAGES IN CLINICAL RADIOLOGY



Large occipital nerve (Arnold's nerve) schwannoma

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A 37 year-old man who had a ten years history of remitting and intermittently severe neck pain with a suboccipital mass is presented. On initial neurological examination there was no abnormal finding except little mass in the posterior neck. Following physical examination radiological evaluation was requested. In sagittal pre (A) and postcontrast (B) T1W images the lesion in between cervical 2 and 3 spinal process (arrow). The lesion was well defined, encapsulated, heterogeneously enhanced in 2.5 x 2 cm size. There was no bony destruction but remodeling. On axial image the configuration and the location in the semispinalis capitis muscle was easily identified easily (C). The patient underwent operation and final pathologic and radiologic diagnosis was schwannoma with Antoni A cells which was originated from the greater occipital nerve.

Comment

Schwannoma is a capsulated, benign and slow growing tumor which arises in myelinated nerve. It can occur in peripheral, spinal and cranial nerves. While these lesions are frequently seen in head and neck region (25-45%) but it is rare in suboccipital region (1).

The cervical sympathetic chain is located postero-medially to carotid vessels and passes through postero-medially longus capitis to the prevertebral fascia (1). Schwannomas are frequently solitary lesions. Also another condition called familial schwannomatosis is genetically distinct disease from NF-1.

In the radiologic findings, well defined soft tissue mass on X-ray, hypo or/ and isodense lesions to muscle on CT, T1 WI hypo, T2 WI hyperintensity on MR can be seen.

On T1WI the fat around the tumor called split fat sign, in T2 WI hypointensity in the mass is called target sign (50%). The capsule is seen 70 %, like our case. Also cystic degeneration causes heterogeneous signal. Muscular or lipid tumors, metastatic and reactive lymphadenopathies should be in differential diagnosis. But characteristic MR signals help to make definite diagnosis.

Big occipital nerve (Arnold's nerve) which originates from C2 cervical nerve posterior fibers, takes some nerve fibers from C1 and C2. This nerve cutaneously innervates mostly semispinalis capitis muscles via posterior cervical plexus. Schwannoma in this nerve mostly and makes local irritation and pain (1). In our case there was a mass neighboring to the right semispinalis capitis muscle in the right big occipital nerve track.

In spite of the frequency of schwannomas, big occipital nerve (Arnold's nerve) schwannoma is rare entity in the cervical region.

Reference

1. Ballesteros-Del Rio B., Ares-Luque A., Tejada-Garcia J., Muela-Molinero A.: Occipital (Arnold) neuralgia secondary to greater occipital nerve schwannoma. *Headache*, 2003, 43: 804-807.

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