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VESTIBULAR SCHWANOMA PRESENTING AS HEADACHE

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ABSTRACT

Vestibularschwannoma, is a tumor of the Schwann cells which involves the vestibular division of the VII cranial nerve. Most commonly the patients present withorofacial pain, facial paralysis, trigeminal neuralgia, tinnitus, hearing loss, and imbalance that result from compression of cranial nerves V–IX. In some patients, acoustic neuromas may grow large enough, preventing the normal flow of cerebrospinal fluid by pressing against the brainstem, leading to a phenomenon called hydrocephalus. Hydrocephalus, causes pressure on the tissues of brain and results in a variety of symptoms including headaches, an impaired ability to coordinate voluntary movements (ataxia), and mental confusion. Headaches may also occur in the absence of hydrocephalus and in some rare cases may be the first sign of an acoustic neuroma. We report a interesting case of acoustic neuroma presented as unilateral headache for a short duration of 2 months.

KEYWORDS: Vestibularschwannoma, is a tumor withorofacial of 2 months.

INTRODUCTION

Headache disorders are ranked amongst the ten most disabling conditions in the world by World Health Organization (WHO). Headache is a common problem encountered by the patient that leads to frequent visits to the hospital Tension-type headache and migraine are the two most prevalent causes. Headaches are common in children Acute and chronic headaches are relatively common in children and adolescents, although estimates of the precise prevalence of headache and migraine vary widely. The global prevalence of active headache diseases in the adult population is 46%. In some rare situations, the pain may also arise from neurogenic sources involving cranial nerves V[1,2], VII[3], VIII[4] and IX.[1] Several reports showed that otologic.[5] and ophthalmological[6] clinical manifestations mimic headaches. These patients may undergo unnecessary treatment before the correct diagnosis is made.

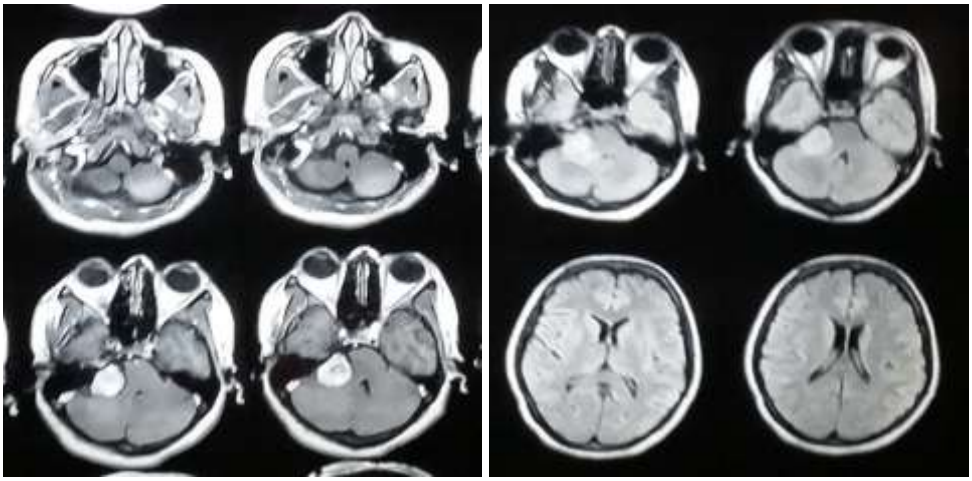
Tumors of the VIII cranial nerve or acoustic neuroma (AN) is a relatively uncommon, benign, usually slow-growing tumor that develops from the vestibulocochlear nerve supplying the inner ear.[7,9] The Schwann cell sheath from which these tumors develop lies distal to the Glial-Schwann cell junction, which is usually located close to the point where the eighth nerve enters the internal auditory meatus. Consequently, AN arise almost invariably within the meatus itself but expand in a medial direction through the orifice of the meatus and into the potential space formed by the cerebellopontine angle. Here, their close proximity to the roots or proximal portions of various cranial nerves ultimately leads to the development of signs and symptoms due to the pressure on these nerves.[10] Compression of these structures may result in a series of complications with the most common symptoms being tinnitus, hearing loss and postural imbalance.[11] These tumors can also present with other symptoms like temporomandibular disorders (TMD), orofacial pain, numbness or tingling in the face, headache, dizziness, facial paresis, and trigeminal nerve disturbances.[12]

The purpose of this article is to report onerare case of AN presenting with unilateral headache. located in the cerebellopontine angle.

CASE REPORT

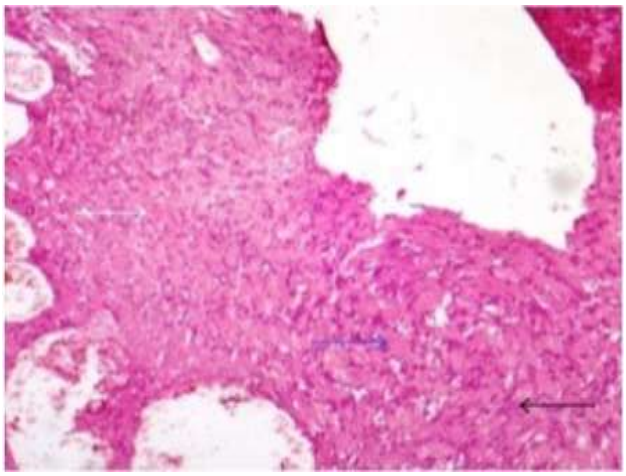
A 35-year-old female patient with a history of symptoms of unilateral headache treated as migraine headache for a period of two months presented in our opd of department of ent, sree balsided headache for 2 months. The patient presented with headache for two months, hearing impairment in right ear for 10 days and altered sensation on right side of face for 3 days.

Patient reported back to the clinic after 2 months with relief of pain only on taking medication and aggravated symptoms. The patient complainedof altered sensation on right side of face with added symptoms of hearing impairment in right ear. Hence, patient was referred to ENT specialist and pure tone audiometry hearing loss in right ear (61.6 dB). Contrast CT brain and temporal bone showed that a well defined extra axial T1 hypo/T2 heterogenous lesion measuring 2.4 x 2cm in the right cerebellopontine angle with extension in to internal auditory canal with widening and mass effect over adjacent posterior fossa structures was observed. Theextension of the tumor into the internal auditory canal was noted.



Immediately, the patient was referred to a neurosurgeon for surgical intervention. Right retromastoid suboccipital craniotomy and total excision of lesion were performed leading to damage of cranial nerves VII,VIII, IX and X resulting in hearing loss and facial paralysis with loss of taste sensation on the affected side.

Histological analysis of the lesion revealed two microscopic patterns in varying amounts. Few areas showed streaming fascicles of spindle shaped Schwann cells (Antoni-A areas). These spindle shaped cells were arranged in a palisaded manner around acellular, eosinophilic areas (Verocay bodies). In other areas, the spindle shaped cells revealed relatively less cellular and less organized areas within a myxomatousstroma (Antoni-B areas). Few blood vessels showed hemorrhage and fibrin within the lumen.



Histological features (H&D ×40) show Antoni-A are(blackarrow), Antoni-B areas (white arrow) and Verocay bodies (blue arrow).

DISCUSSION

A complete history, clinical examination, and through diagnostic work-up ruled out the cause for the patient's pain. The absence of work, family and personal conflicts excluded psychological pain. Conservative management reduced the pain but was aggravated on stopping medication. After two months, the patient reported advanced clinical features and diagnosis was made based on CT with contrast.

The AN originates from the Schwann cell, in the peripheral portion of superior and inferior vestibular nerves, and also from cochlear nerve.[13] The AN occurs in an incidence of about 1 : 100000 inhabitants per year. Headache as the sole symptom of an intracranial tumor is rare. When headache is caused by such a lesion, neurological abnormalities are usually present.

In the present case, initial clinical features suggested headache but late stages exhibit neurological abnormalities like trigeminal neuralgia. Although the patient exhibited the classic symptoms of acoustic neuroma like loss of hearing, the patient's primary concern was headache that became unbearable. These symptoms had only been diagnosed as part of the patient's follow-up. Upon limited success of treatment of her headache and considering her young age, the patient was referred for CT suspecting an intracranial tumor, which led to the diagnosis of trigeminal neuralgia secondary to acoustic neuroma.

Some authors believe that as tumor size increases it pushes the trigeminal nerve root against the superior cerebellar artery, producing a neurovascular conflict similar to the vascular compression theory proposed for classic trigeminal neuralgia. Another school of thought suggests that the increasing pressure on the trigeminal root or ganglion may induce loss of myelination in the trigeminal sensory root resulting in ephaptic short-circuiting within the nerve root, which results in facial pain and sensory deficits.[1]

In our case, extension of the AN in to internal auditory meatus was noted.

Early diagnosis of a vestibular schwannoma is key to preventing its serious consequences. There are three options for managing a vestibular schwannoma: observation, radiation, and surgical removal.[14] In the present case, right retromastoidsuboccipital craniotomy and total excision of lesion were done. Surgical access to this confined zone is difficult; there is a high likelihood of introducing new symptoms or exacerbating preexisting conditions. In our case,

the patient developed facial paralysis, loss of taste sensation, and hearing loss on the right side. Facial paralysis and loss of taste sensation are due to damage to the facial nerve which resulted in reduced tonicity in the muscles of facial expression, as well as affecting taste in the anterior two-thirds of the tongue via the chorda tympani nerve. Due to encirclement of the vestibule-cochlear nerve around the tumor, the patient suffered hearing loss on the right side.

CONCLUSION

Hence, more emphasis should be laid through history and clinical and radiological examination and also include AN in the differential diagnosis when considering headache, orofacial pain, TMD, and trigeminal neuralgia in young age.

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