Abstract:
Schwannomas of the hypoglossal nerve is a rarity. We present a 32 yr old who presented with hemi atrophy of the tongue. MRI BRAIN of the patient showed a well delineated lobular lesion within the posterior fossa skull base. Complete surgical excision was done through a suboccipital craniectomy. Histopathological reports suggested a schwannoma.

Keyword:
Schwannoma, hypoglossal nerve,

INTRODUCTION:
Schwannomas or neuromas are benign slow growing tumors which can be seen both in the spine and the cranium. They represent about 6% of all intracranial tumors. Majority of these tumors are seen arising from the cranial nerves of which vestibular schwannomas are the commonest.

CASE REPORT
32 year old male presented with difficulty in marshalling the food and manipulating food with the tongue on the left side. On examination the patient was fully conscious and oriented, higher mental function was normal with MMSE of 28/30. The patient had dysarthria. All cranial nerves were normal except the 12th cranial nerve which showed hemi atrophy of the tongue on the left side, deviation of the tongue to the left with fasciculations on the same side. Spinomotor system was normal with normal power in all 4 limbs and the DTR being normal. Gait was normal with no cerebellar signs. Spine and cranium was normal.
The patient was subjected to MRI BRAIN and it showed a well circumscribed lobular lesion in the posterior fossa in the skull base on the left side seen arising from the hypoglossal canal with attachment to the left hypoglossal nerve. Patient underwent preoperative evaluation for fitness of surgery and was posted for craniectomy. The patient was intubated and positioned in a sitting posture with Mayfield 3 pin head rest, with adequate precautions to avoid air embolism which is common in sitting postures. Midline suboccipital craniectomy was done. Dura opened Y shaped. Cerebellum retracted from the left side. Grayish moderately vascular well circumscribed firm tumor was identified and found arising from the hypoglossal nerve within the hypoglossal canal. The tumor was slowly debulked with the help of bipolar and tumor holding forceps until the final capsule was dissected off the cisternal arachnoid. There was no intraoperative complications. Postoperative period was uneventful. Postoperative CT brain showed no residual tumor.

HPE report showed a benign tumor – SCHWANNOMA

MRI BRAIN DISCUSSION:
Schwannomas account for 8.5% of all intracranial tumors and more than 90% of the tumors originate from the 8th cranial nerve (1). The first case of hypoglossal neurinoma was noted in 1933 (2). Schwannoma is the second most common intracranial extra-axial neoplasm after meningioma. Schwannomas are tumors arising from the myelin-producing Schwann cells of the peripheral sensory nervous system. Cranial nerve schwannomas also affect other cranial nerves with a much lower frequency. Hypoglossal schwannomas are rare. Of those occurring in the head and neck region, most are intracranial. Involvement of cranial nerves containing motor fibers alone is uncommon. Schwannomas of the 12th cranial nerve are rare, with most originating intracranially, although some may extend extracranially with prolonged growth. The hypoglossal nerve arises from the hypoglossal nucleus and then passes through the hypoglossal canal, and provides motor fibers innervating the muscles of the tongue (5). Most of the hypoglossal neurinomas...
have a dumbbell shape and involve both intracranial and extracranial segment of the hypoglossal nerve(6). However, intracranial hypoglossal neurinomas are unusual(7). The most distinguishing clinical findings of patients with hypoglossal nerve Schwannoma are unilateral tongue atrophy and fasciculations(8,9). The differential diagnosis of tumor involving hypoglossal canal includes chemodectoma, chordoma, meningioma, lymphoma and metastatic tumors(10). Clinical presentation of hypoglossal schwannoma is related to CN XII palsy: dysarthria, hemitongue atrophy, tongue fasciculation & deviation towards the side affected. Of those occurring in the head and neck region, most are intracranial. (3)

High resolution CT scan of the posterior fossa with bony details of the foramen passing through by cranial nerve is the neurodiagnostic procedure of choice(4). Imaging findings of hypoglossal nerve palsy include hemitongue atrophy with fatty replacement, prolapse of hemitongue into the oropharynx. Hypoglossal nerve neuropathy is frequently associated adjacent cranial nerve involvement. Isolated hypoglossal neuropathy is rare. Tumor, infection, trauma of skull base, radiation and vascular insult may attribute the isolated hypoglossal nerve palsy(11).

The treatment of choice is enucleation of the tumor while preserving the nerve. In the majority of the case reports a conventional midline or modified suboccipital craniotomy was performed. Smith PG et al. recommend transcranial excising of hypoglossal schwannomas through a transcondylar approach as this improves the visualization of the hypoglossal canal (13).

CONCLUSIONS: Schwannoma of the hypoglossal nerve usually develops in the intracranial and extracranial portion or both in the intracranial and extracranial components forming a dumbbell shape tumor. The peripheral hypoglossalschwannomas are extremely rare. Treatment of these tumors depends on the extension of the tumor. Surgery is the definitive treatment, there is no role for radiotherapy or chemotherapy.

REFERENCES:


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