Case Report

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Schwannoma of Small Branch of Cervical Nerve: A Rare Case Repot

Shreedhar Aryal, MBBS
Department of General Surgery,
National Academy of Medical Sciences
Bir Hospital, Kathmandu

Rajiv Jha, MS, MCh
Department of Neurosurgery,
National Academy of Medical Sciences
Bir Hospital, Kathmandu

Address for Correspondence:
Shreedhar Aryal
General Surgery Resident
National Academy Of Medical Sciences
Bir Hospital
Email: helloshreedhar@hotmail.com

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A 17-year-old male presented with a swelling in the neck for 6 yrs. Neuroimaging showed a heterogeneous mass extending from the mandible to the clavicle splaying the major neck vessels without intracranial extension. FNAC was inconclusive. A probable diagnosis of neurofibroma was made. Total surgical excision was done. Histopathological diagnosis of Schwannoma was made. Here, we discuss the rare presentation of the neck mass and concluded that precise excision of the tumor is important avoiding vagal nerve injury, and intracranial extension needs to be ruled out.

Key Words: cervical nerve, neurilemoma, schwannoma

Carotid body tumors, cervical sympathetic chain schwannomas, and vagal schwannomas are rare neck tumours. Common location in neck is the retrostyloid compartment of parapharyngeal space. Vagal schwannomas are most common followed by carotid body tumors.[6]

25-40% of all the extracranial schwannomas have been reported in the head and neck region **(Figure 1)**. Head and neck region is the site of origin in more than one third of all solitary neurilemomas and they occur most often in the lateral part of the neck. FNAC, CT scans, and MRI may be of limited help in the diagnosis of schwannomas. The treatment is complete surgical excision of the benign tumour. Postoperative histopathological examination establishes the final diagnosis.[4]

We report a rare case of Schwannoma originating from a small branch of cervical nerve in the neck, diagnosed on histopathology.

Case Report

A 17-year-old male presented with painless swelling in the neck for 6 years, progressively increasing in size. There was no history of loss of consciousness, dyspnoea, dysphagia, seizures or weakness of limbs. On examination, there was a 12 × 10 cm painless swelling on the left side of the neck under the left sternocleidomastoid muscle extending from the mandible to the clavicle, firm, smooth, mobile horizontally with restricted vertical mobility, non pulsatile, non compressible, non transilluminating and without bruit. General and systemic examinations were within normal limits **(Figure 2)**. FNAC was inconclusive. A written consent was taken and the tumour was excised with the findings of greyish white, firm solid mass with rich peripheral vasculature underneath the sternocleidomastoid muscle, adherent to major vascular structures and submandibular gland, originating from a small branch of cervical nerve **(Figure 3)**.

Discussion

A schwannoma is a slow-growing solitary and encapsulated tumor attached to a nerve. Schwannomas arise from Schwann cells present in the nerve sheaths of the originating nerve; any cranial or spinal nerves with a sheath. Extra cranial trigeminal nerve schwannomas are less frequent than cranial nerves IX, X, XI and XII.[5,7] The size of the tumor may vary from few mm to over 24 cms. In the neck, schwannomas are divided into medial and lateral groups on the basis of nerve of origin. The medial group arises from the last four cranial nerves and the cervical sympathetic chain; the lateral group arises from the cervical neck trunk, cervical plexus and the brachial plexus.[6] The preoperative diagnosis of schwannomas in the head neck region is difficult. Abdul Ahad[1] has recommended the FNAC. But most of the investigations, like FNAC, may help to reveal diagnosis, but they are inadequate. FNAC is very effective in differentiating benign and malignant tumors of soft tissue. Although FNAC is very useful in

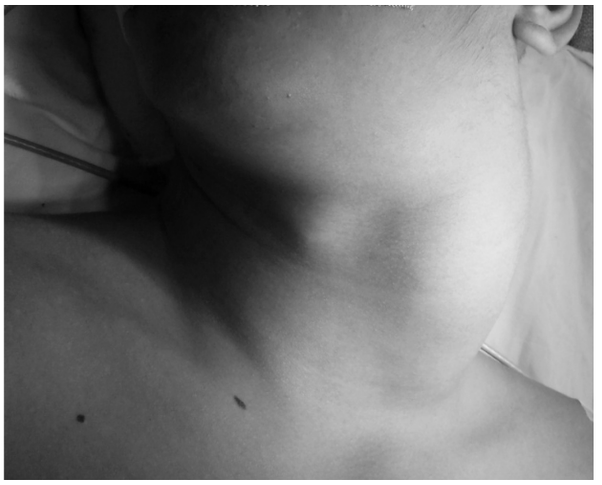

Figure 1: Neck Swelling

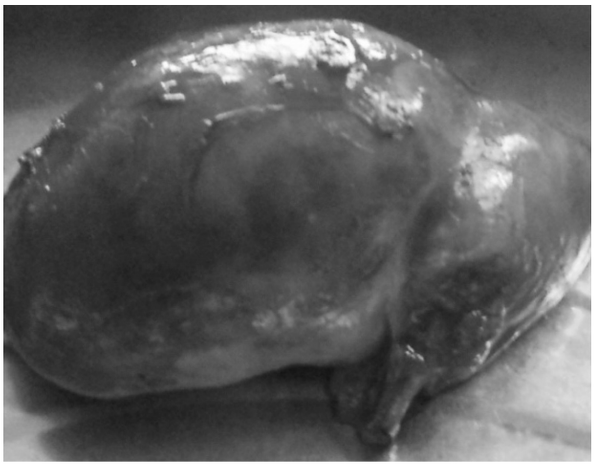

Figure 3: Excised tumour

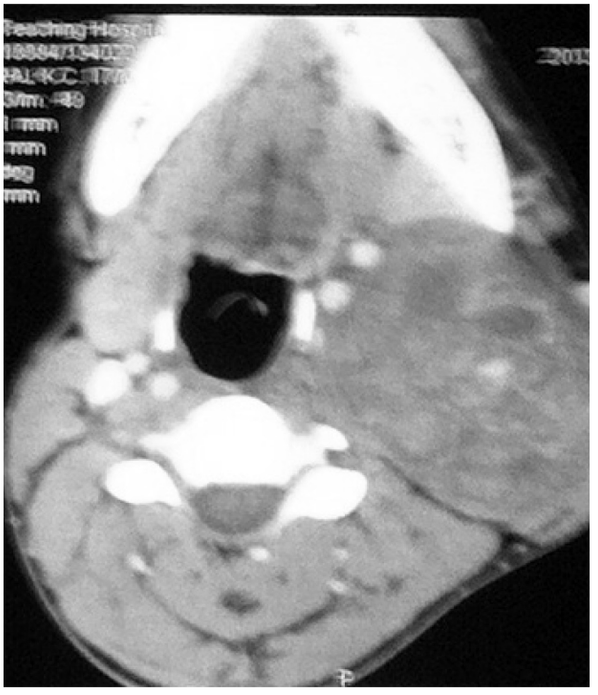

Figure 2: CT scan showing the tumour with splaying of the carotid artery and internal jugular vein

most neck masses, it has a low accuracy in the diagnosis of neural tumours.[3] CT with contrast enhancement should be routinely done as some of the schwannomas are very vascular.[2,8] High vascularity in the tumor also helps to differentiate it from carotid body tumors which are highly vascular. Shoss et al.[9] has also recommended high resolution CT to determine the size and extent of the tumor, to demonstrate degree of tumor vascularity and to differentiate between benign and malignant lesions. Histopathological examination reveals two types of schwannomas: Antoni type A and Antoni type B. A case report illustrates two unusual cases of parapharyngeal schwannomas mimicking carotid body tumors in terms of characteristic vascular displacement. These cases were seen in younger ages and include cervical sympathetic chain schwannoma and vagal schwannoma. These schwannomas revealed hypovascularity on imaging studies allowing differentiation from hypervascular carotid body tumors.[6] The treatment of extracranial head and neck schwannoma is exclusively surgical. In our case, total surgical excision was possible through a direct incision over the swelling in the neck and dissecting the tumor from the loosely attached nearby structures.

Conclusion

Although schwannomas are very rare in neck swellings, possibility of this entity should never be underestimated as most of the schwannomas could be Carotid body tumors, cervical sympathetic chain schwannomas, vagal schwannomas and neurofibroma which if not diagnosed and treated properly can turn an apparently healthy individual into a victim with disability in the form of laryngeal nerve injury or vagal nerve injury or so. Schwannoma arising from a branch of a cervical nerve is even more rare. Another important thing is that intracranial extension of the tumor needs to be ruled out prior to surgery. So, a high index of suspicion is required and a proper diagnosis and a precise and complete excision of the tumor is required for the management of a high cervical swelling.

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