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SCHWANNOMA OF THE NECK PRESENTING AS CERVICAL LYMPHADENITIS

Dr. Aarushi Vashist* Resident Otorhinolaryngology, Department of Otorhinolaryngology and Surgery, PGIMS Rohtak-124001, Haryana ,India. *Corresponding Author

Dr. Sahil Data Resident Surgery, Department of Otorhinolaryngology and Surgery, PGIMS Rohtak-124001, Haryana ,India.

Dr. Raman Wadhera Professor Otorhinolaryngology, Department of Otorhinolaryngology and Surgery, PGIMS Rohtak-124001, Haryana ,India.

Dr. Manish Verma Professor Surgery, Department of Otorhinolaryngology and Surgery, PGIMS Rohtak-124001, Haryana ,India.

ABSTRACT

Schwannoma is a benign soft tissue encapsulated nerve sheath tumour derived from Schwann cell of the peripheral cranial and automatic nerve sheath cells. It represents 5 % of all benign soft tissue tumours. About 25-45 % of Schwannomas occur in the head and neck region. It is usually solitary, slow growing, benign encapsulated tumour. We present a case of Schwannoma of the neck in supraclavicular region mimicking cervical lymphadenitis.

INTRODUCTION

There are many benign swellings which can occur in the head and neck region like lipoma, lymph node swellings and neurogenic tumours. Neurogenic tumors of the head and neck can be schwannomas, neurofibromas, and neuroepitheliomas, among others. Schwannomas are solitary, encapsulated, slow-growing, benign tumors arising from the Schwann cells of the peripheral, cranial, and autonomic nerves.[1] The clinical signs and symptoms vary according to the size and location of the tumor, and the nerve of origin. Preoperatively they mimick cervical lymph nodes and a differential diagnosis of cervical lymphadenitis is frequently made. Complete surgical resection is curative, although it may be difficult to preserve the function of the affected nerve due to nerve fascicles expanding randomly on the surface of the tumour[1].

Embryologically, Schwann cells arise during the fourth week of development from a specialized population of ecto-mesenchymal cells of the neural crest, which then detach from the neural tube and migrate into the embryo. Schwann cells form a thin barrier around each extracranial nerve fiber and wrap larger fibers with an insulating myelin sheath to enhance nerve conduction. As nerves exit the brain and spinal cord, there is a change between myelination by oligodendrocytes to myelination by Schwann cells. Schwannomas arise when proliferating Schwann cells form a tumor mass encompassing motor and sensory peripheral nerves.[2] About 25–45% of cranial schwannomas arise in the head and neck area, in any point of the neuron axon from the skull base or spinal column down to skin, mucosal or end organ structures. Head and neck schwannomas usually involve cranial nerves V, VII, IX, X, XI and XII, sympathetic chain, brachial or cervical plexus.[3] Only 1% schwannomas have an intraoral origin where they mimick salivary gland tumours.[4]

Schwannomas are generally believed to be slow-growing neoplasms. Zhang et al. and de Araujo et al. reported annual tumor growth rates of 2.75 and 3 mm, respectively.[5,6] Malignant change in head and neck schwannomas is rare, with the incidence varying between 8 and 13.9%.[7,8]

CASE REPORT:

A 30 years female presented with swelling in the right supraclavicular region for the last 6 months. There was no history of pain in the swelling. Patient did not have any history of cough with expectoration, evening rise of temperature, malaise or fever. There was no history of loss of weight and appetite. On examination, there was a firm non-tender swelling of size 4X6 cm in the right supraclavicular region which was not fixed to skin but it was having restricted mobility due to adhesions with the underlying structures. On ultrasound, there was a well-defined swelling of size 6x4 cm with some cystic areas with central flow of blood on color Doppler. On CT neck there was a hypodense lesion in the right supraclavicular region with some cystic area seen. Fine needle aspiration cytology was done and it revealed few blood cells only, no definite opinion was possible. A probable diagnosis of tubercular lymphadenitis was made.

Excision of the swelling was done under general anaesthesia. The swelling was of size 6x4 cm present in the posterior triangle of the neck deep to trepezius and it was adherent to the surrounding structures (Fig1). Swelling was excised and sent for histopathological examination. On histopathology it was reported as Schwannoma.

DISCUSSION:

Schwannomas originate from perineural Schwann cells and grow extrinsic to their parent nerve fascicles. They can occur along both sympathetic and somatic nerves in the body, with the exception of the olfactory and optic nerves, as these lack Schwann cells.[9]

Schwanomas have a slight female predilection. In terms of patient age, schwannomas are most commonly reported in patients aged between 30 and 60 years. In the early stage, there are no specific symptoms or signs associated with schwannomas, and most patients present with an asymptomatic palpable solitary mass.[10] Patient may present with pressure symptoms or neurological deficit. Pressure symptoms may differ depending upon the location of the tumour like neurological symptoms, hoarseness and radiating pain.

Yafit et al, reported that the most common nerve of origin is the brachial plexus.[1] A preoperative diagnosis of schwannoma is difficult, and the differential diagnosis are diverse, including thyroid nodule, enlarged lymph node, paragangliomas, thyroglossal cyst, or tumor metastasis. On CT scans, small schwannomas are considered as homogenous, enhancing masses. When the size is large (>3 cm), the tumor is often heterogeneous, with randomly distributed areas of low attenuation are observed, surrounded by a peripheral enhancing ring. In general, cystic elements may be observed. FNAC may be diagnostic in 50% of cases.[11]

Although CT, MRI, and FNAC may be somewhat helpful in distinguishing schwannomas from other tumors, postoperative histopathologic examination is still the gold standard, with the presence of a clear capsule, Antoni A and/or B areas, and a positive reaction for S-100 protein considered characteristic

histopathological features of schwannomas.[11,12]

As schwannomas are both benign and radioresistant, complete surgical excision of the tumors by the appropriate approach is considered the standard curative treatment. Surgical treatment is optimal treatment for allowing preservation of nerve functions. However, it is still necessary to inform the patients of the possibility of neurological sequelae before the operation.

CONCLUSION

Preoperative suspicion and awareness of the possibility of schwannoma are very important in making a proper diagnosis. Adequate imaging studies should be performed to increase the diagnostic rate preoperatively, and owing to the benign nature of this disease, the patients' symptoms and willingness to undergo surgery should be taken into consideration when choosing the appropriate treatment modality.

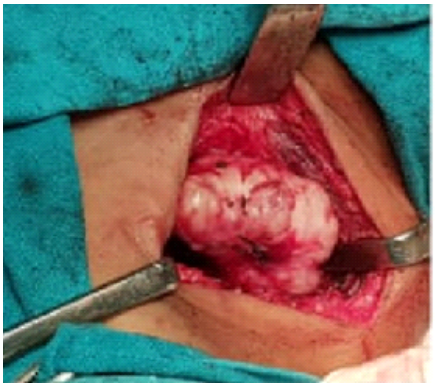

Figure 1: Intraoperative photograph showing schwannoma

REFERENCES :

1. Yafit D, Horowitz G, Vital I, Locketz G, Fliss DM. An algorithm for treating extracranial head and neck schwannomas. Eur Arch Otorhinolaryngol 2015; 272: 2035-2038.
2. Pfiefle B, Paulino H. Scwannoma of the tongue: report of 2cases. J Oral Maxillofac Surg 2001; 59:802–804. doi:10.1053/joms.2001.242982.
3. Colreavy MP, Lacy PD, Hughes J et al. Head and neck schwannomas: a 10-year review. J Laryngol Otol 2000;114:119–124.doi:10.1258/0022215001905058
4. Lopez JI, Ballestein C, Intra-oral schwannoma: a clinicopathologic and immunohistochemical study of nine cases. Arch Anat Cytol Pathol 1993;41:18–23.
5. Zhang H, Cai C, Wang S, Liu H, Ye Y, Chen X. Extracranial head and neck schwannomas: a clinical analysis of 33 patients. Laryngoscope 2007;117:278–281. doi:10.1097/01.mlg.0000249929.60975.a7
6. Araujo De et al. Neck nerve trunk schwannomas: clinical features and postoperative neurologic outcome. Laryngoscope 2008;118:1579–1582. doi:10.1097/MLG.0b013e31817b0702
7. Das Gupta TK, Brasfield RD. Solitary schwannoma. Ann Surg 1970;171:419. doi:10.1097/00000658-197003000-00016
8. Ghosh BC, Gabora R, Shimamoto F et al. Ancient schwannoma of oral floor and ventral portion of the tongue: a case report and review of the literature. J Clin Oncol 1996;26:185
9. Sinkkonen ST, Hilden O, Hagstrom J, Leivo I, Back LJ, Makitie AA. Experience of head and neck extracranial schwannomas in a whole population-based single-center patient series. Eur Arch Otorhinolaryngol 2014; 271: 3027-3034.
10. Liu HL, Yu SY, Li GK, Wei WI. Extracranial head and neck Schwannomas: a study of the nerve of origin. Eur Arch Otorhinolaryngol 2011; 268: 1343-1347.
11. Rohaizam J, Tang IP, Jong DE, Tan TY, Narihan MZ. Cervical schwannoma: report of four cases. Med J Malaysia 2012; 67: 345-348.
12. Dalgic A, Kandogan T, Koc M, Kulan CA, Yagci A, Engin O, et al. Short-term laryngeal electromyography and histopathological findings after primary reconstruction of the inferior laryngeal nerve in rabbits: prospective study. J Laryngol Otol 2013; 127: 48-53.