

CASE REPORT

Schwannoma of the External Auditory Canal: A Rare Location

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ABSTRACT

Schwannomas are benign slow-growing encapsulated tumors arising from the Schwann cells that ensheath the axons of the peripheral, cranial, and autonomic nervous systems. About 25 to 45% of all Schwannomas are seen in the head and neck but Schwannoma of the external auditory canal is rare. We report a case of Schwannoma of the external auditory canal in a 18-year-old male patient.

Keywords: Encapsulated tumor, External auditory canal, Schwannoma.

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INTRODUCTION

A solitary Schwannoma, also referred to as neurinoma or neurilemmoma, is a well-encapsulated benign tumor, moderately painful and slow growing, originating from the Schwann cells. It can originate from any nerve in the body except optical and olfactory nerves, as they lack coating of Schwann cells.¹ Of all the head and neck tumors schwannomas comprise about 25 to 45%.¹⁻³ The most frequent intracranial location is the 8th cranial nerve, whereas the most frequent extracranial location is the side of the neck.¹⁻⁴ External auditory canal (EAC) is a very infrequent location for such tumors.

CASE STUDY

An 18-year-old male reported to the ENT outpatient department of SN Medical College, Agra with history of right ear swelling and feeling of blockage for the last 2 years. He also complained of decreased hearing for last 6 months. He gave history of incision and drainage of the same swelling twice elsewhere. There was no history of paresthesia or neuralgia. On physical examination, an ovoid swelling was found bulging from the posterosuperior wall of the right EAC. Swelling was 3 × 2 cm in size, firm in consistency, mobile, tender, and obscuring the vision of tympanic membrane. Overlying skin was ulcerated and infected (Fig. 1). A probable diagnosis of right-sided otitis externa was made. On aspiration nothing was obtained. Swab for culture and sensitivity revealed *Staphylococcus aureus*. He was admitted and given oral treatment of antibiotics and analgesics.

High-resolution computed tomography of the temporal bone was done, which demonstrated soft tissue mass measuring 3.2 × 2.2 in the outer part of the right cartilaginous EAC, with no intracranial extension (Figs 2A and B). The fine-needle aspiration cytology report of swelling was suggestive of nerve sheath tumor. Surgery was planned and tumor was excised via endaural approach under local anesthesia with sedation. Probably tumor arose from the auricular branch of vagus nerve (cranial nerve X). Postoperative period was uneventful.



Fig. 1: Clinical presentation of the patient

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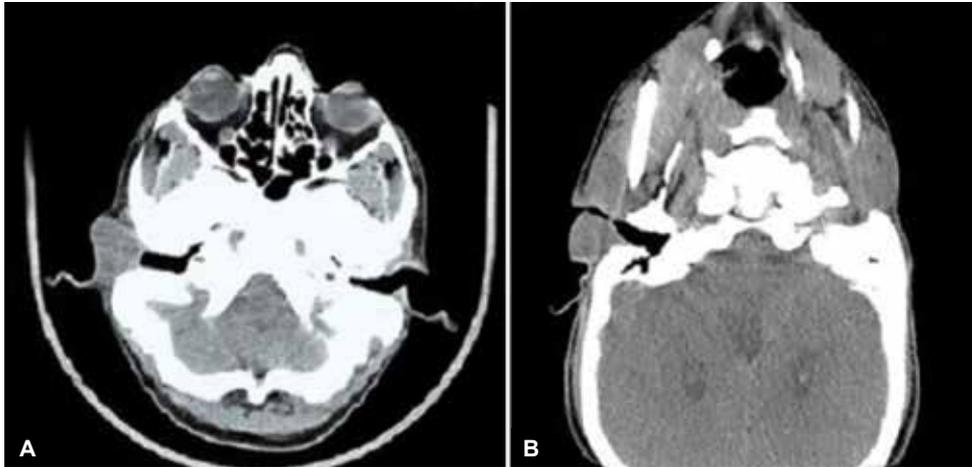
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Figs 2A and B: Axial and coronal view high-resolution computed tomography temporal bone showing mass in right external auditory canal

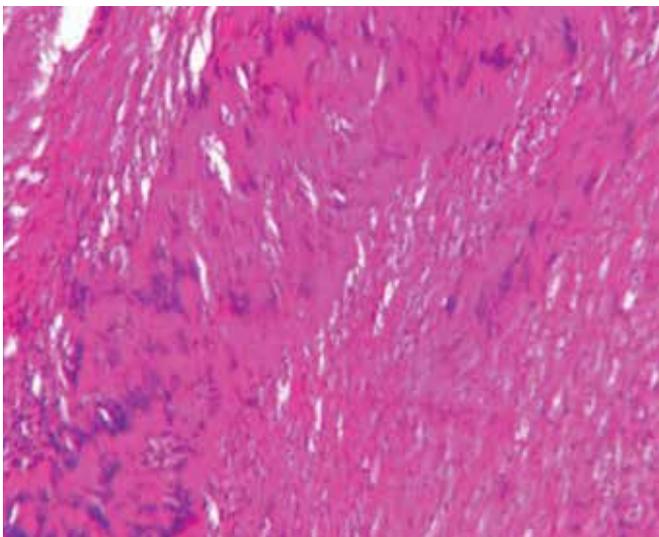


Fig. 3: Spindle-shaped cells arranged in typical Antoni A and B areas with nuclear palisading forming Verocay bodies (hematoxylin and eosin, 400×)

Patient was discharged after removal of stitches on the 7th postoperative day. External auditory canal was found widened postoperatively. Histopathological examination confirmed Schwannoma (neurilemmoma) showing Antoni A cells, Antoni B cells, and Verocay bodies (Fig. 3).

DISCUSSION

Solitary Schwannomas are benign tumors first described in 1908 by Verocay, who gave it the name of neurinoma. In 1974 Batsakis assigned it the name Schwannoma,⁵ although it is also known by several other names, such as neurinoma, neurilemmoma, mioschwannoma, schwannoglioma.⁴

It affects any nerve in the body that has Schwann cells in the sheath. But sensory and motor nerves are very rarely involved.⁶ The mean age of onset is 30 to 60 years and it is more common in women.¹ The tumors in EAC are usually asymptomatic until they attain a sufficient size to

produce a sensation of blockage or cause external otitis due to accumulation of debris or dampness.² Paresthesias or neuralgias are very infrequent. As the tumor arises from Schwann cells, it affects the surface of the nerve, and therefore the nerve fibers would in principle only be squashed by pressure and not injured, unlike neurofibromas arising from the nerve fibers. This fact is of importance during surgery, as the tumor can be removed without necessarily sacrificing the nerve. Schwannoma is an encapsulated tumor with a distinctive pattern formed by oval to elongated cells arranged in hypercellular (Antoni type A tissue) and hypocellular (Antoni type B tissue) areas.^{1,4} Cells are arranged in palisading fashion forming Verocay body. Schwannomas or neurilemmomas rarely become malignant but primary malignant tumors have been described particularly in the neck.⁶ Treatment requires surgery either through endaural route, as in our case, or from the back of the ear if the tumor is too large.^{3,6} Relapses are very infrequent after surgery.^{1,6} The purpose of reporting this case is to consider Schwannoma in the differential diagnosis of EAC mass.

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