



## A large schwannoma of external auditory canal: an unusual case

Dış kulak yolunda büyük bir schwannoma: Nadir bir olgu

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### ABSTRACT

A 49-year-old female patient presented with mass occluding her external auditory meatus. Surgical exploration revealed that the mass eroded the bony canal wall and biopsy reported the mass as a schwannoma. Schwannoma should be considered in the differential diagnosis of a soft tissue swelling arising from the external auditory canal.

**Keywords:** External auditory canal; immunohistochemistry; schwannoma.

### ÖZ

Kırk dokuz yaşında kadın hasta dış kulak meatusunu tıkayan bir kitle ile başvurdu. Cerrahi araştırmada kitlenin kemik kanal duvarını aşındırdığı görüldü ve biyopsi sonucunda kitlenin bir schwannoma olduğu bildirildi. Dış kulak kanalından kaynaklanan bir yumuşak doku şişliğinin ayırıcı tanısında schwannoma dikkate alınmalıdır.

**Anahtar Sözcükler:** Dış kulak kanalı; immünohistokimya; schwannoma.

Schwannomas are slow growing benign tumors, arising from Schwann cells of peripheral nerve sheaths. Within the cranial vault, they are most commonly located at the internal acoustic meatus arising from the vestibular nerves. They are uncommon in the external auditory canal.<sup>[1-5]</sup> We discuss the clinical, radiological and histological features of this rare tumor.

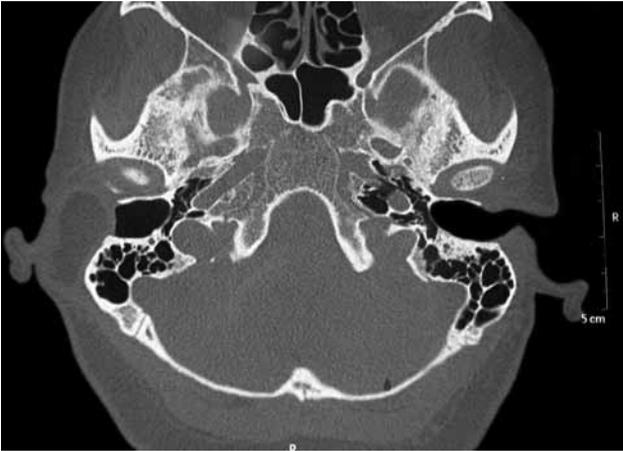
### CASE REPORT

A 49-year-old female was admitted to the ear nose and throat (ENT) department with a history of a sensation of fullness and progressive hearing loss in her left ear over the past six years. There

was no history of vertigo, otalgia or discharge from the ear. On examination there was a smooth-surfaced ovoid mass completely filling the external ear canal without any ulceration or pigmentation (Figure 1). There was no view of the tympanic membrane. Pure tone audiogram revealed a mild conductive hearing loss.

Computed tomography (CT) showed a well circumscribed, round, soft tissue benign-appearing mass approximately 3x3 cm arising from the external auditory canal wall (Figure 2). Surgical excision using a post-aural approach was performed (Figure 3). A tumor





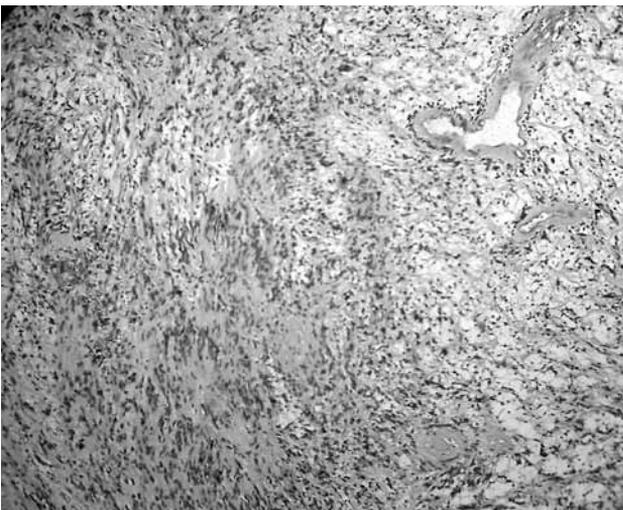
**Figure 1.** Computed tomography scan showing a homogenous mass in the left external auditory canal eroding into the temporomandibular joint.



**Figure 2.** Intraoperative picture of the mass.

mass arising from the anterior wall of the external ear canal was identified in relation to the left auriculotemporal nerve and the temporomandibular joint. There was erosion of the bony plate of the temporomandibular joint but the capsule was intact. The mass was completely removed in toto. The tympanic membrane was intact and normal. The postoperative period was uneventful.

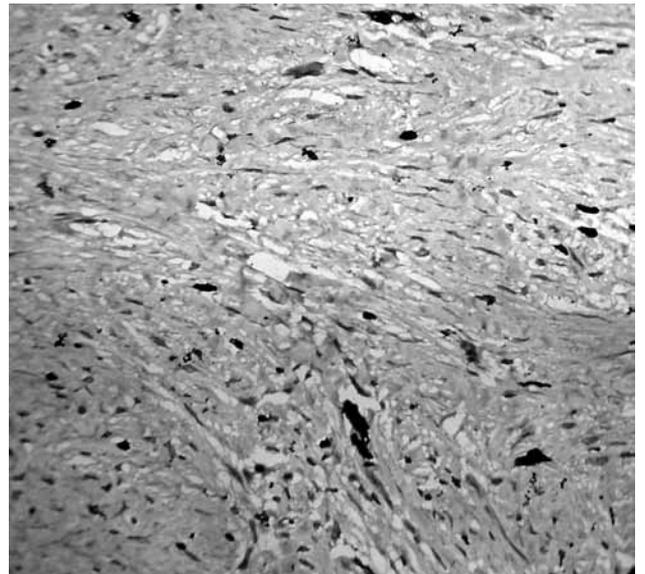
Histological examination revealed a benign schwannoma (Figure 4). The immunohistochemistry revealed positivity for S100. There was no evidence of recurrence during eight months follow-up.



**Figure 3.** Characteristic hypocellular (Antoni B) and hypercellular (Antoni A) areas with verocay bodies and hyalinized blood vessels (H-E x 100).

## DISCUSSION

Schwannomas of the head and neck are common, and are mostly seen arising from the internal acoustic meatus. In the head and neck, they are commonly seen in association with large nerve trunks. Those arising from the external auditory canal are very rare.<sup>[6,7]</sup> The clinical presentation of a tumor arising from the external auditory canal is generally of a slow growing mass causing recurrent otitis, pain and mild hearing loss. Neurogenic symptoms like pain or paresthesias are rare and it is difficult to localize the nerve of origin on clinical examination.



**Figure 4.** The tumor cells are positive for S-100 (immunohistochemistry x 100).

Schwannomas are encapsulated and therefore they can be easily dissected from the surrounding tissues. The erosion of the bony canal wall, which is seen in our case, has not been reported so far. The differential diagnosis of a mass in the external auditory canal consists of more commonly occurring tumors like osteoma<sup>[8]</sup> or rarer tumors like myxoma,<sup>[9]</sup> fibroma<sup>[10]</sup> lipoma<sup>[11]</sup> and hemangioma.<sup>[12]</sup> Definitive diagnosis is based on histopathological and immunohistochemical examination of the specimen.

Histologically the tumor is characterized by areas of thick concentrations of cells called Antoni A and areas of loose and irregularly arranged cells called Antoni B. Treatment is complete excision of the tumor via either transmeatal<sup>[1,13]</sup> or post aural approach.<sup>[3]</sup> The choice of approach will depend on tumor size, location and relations to surrounding structures. The post-aural approach allows excellent exposure and adequate resection of the mass<sup>[14]</sup> and is useful in excising large tumors as in our case.

### Conclusion

Schwannomas should be considered in the differential diagnosis of a soft tissue swelling arising from the external auditory canal. The clinical and radiological findings are not specific and the definitive diagnosis depends on the histopathological and immunohistochemical examination of the specimen. The post-aural approach allows excellent exposure and adequate resection of the mass.

### Declaration of conflicting interests

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