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Pathology in Focus

Schwannoma of the external auditory canal

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Abstract
Solitary schwannomas are relatively rare. There has been only one previously reported case, in the English literature, of a schwannoma arising in the external auditory canal. We present a case which was managed by local excision and was unassociated with cochlear or retrocochlear pathology.

Key words: Ear neoplasms, schwannoma; Ear canal

Introduction

Schwannomas (neurilemmomas) may arise from the neural sheaths of peripheral as well as cranial nerves, of which schwannoma of the vestibulocochlear nerve is the most common neurogenic tumour of the aural region (Friedmann and Arnold, 1993) and accounts for about eight per

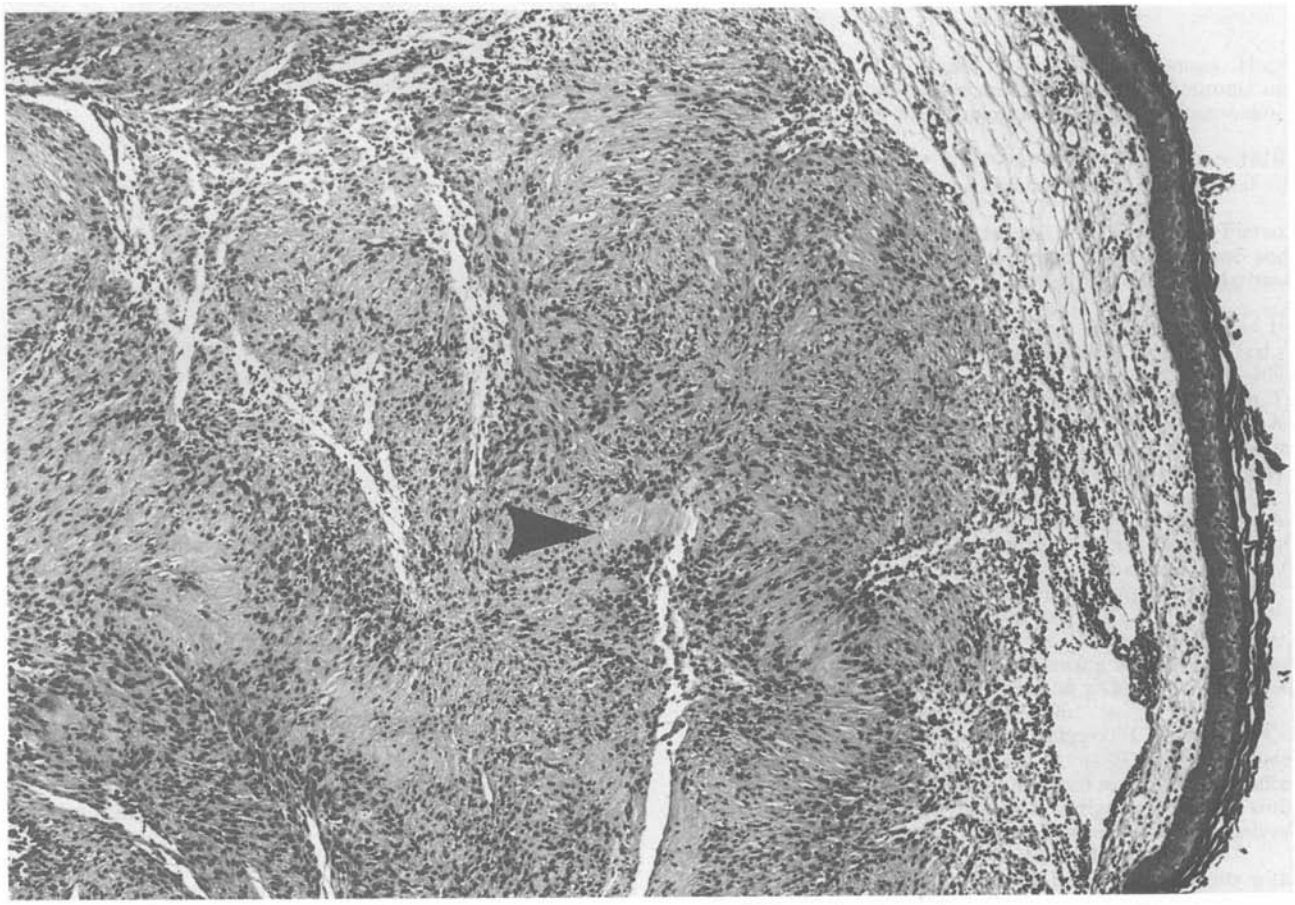

FIG. 1

The superficial well-defined edge of the schwannoma is seen in the dermis. The tumour exhibits a compact 'Antoni A' pattern with nuclear palisading and Verocay bodies (arrowhead). (H&E; × 50).

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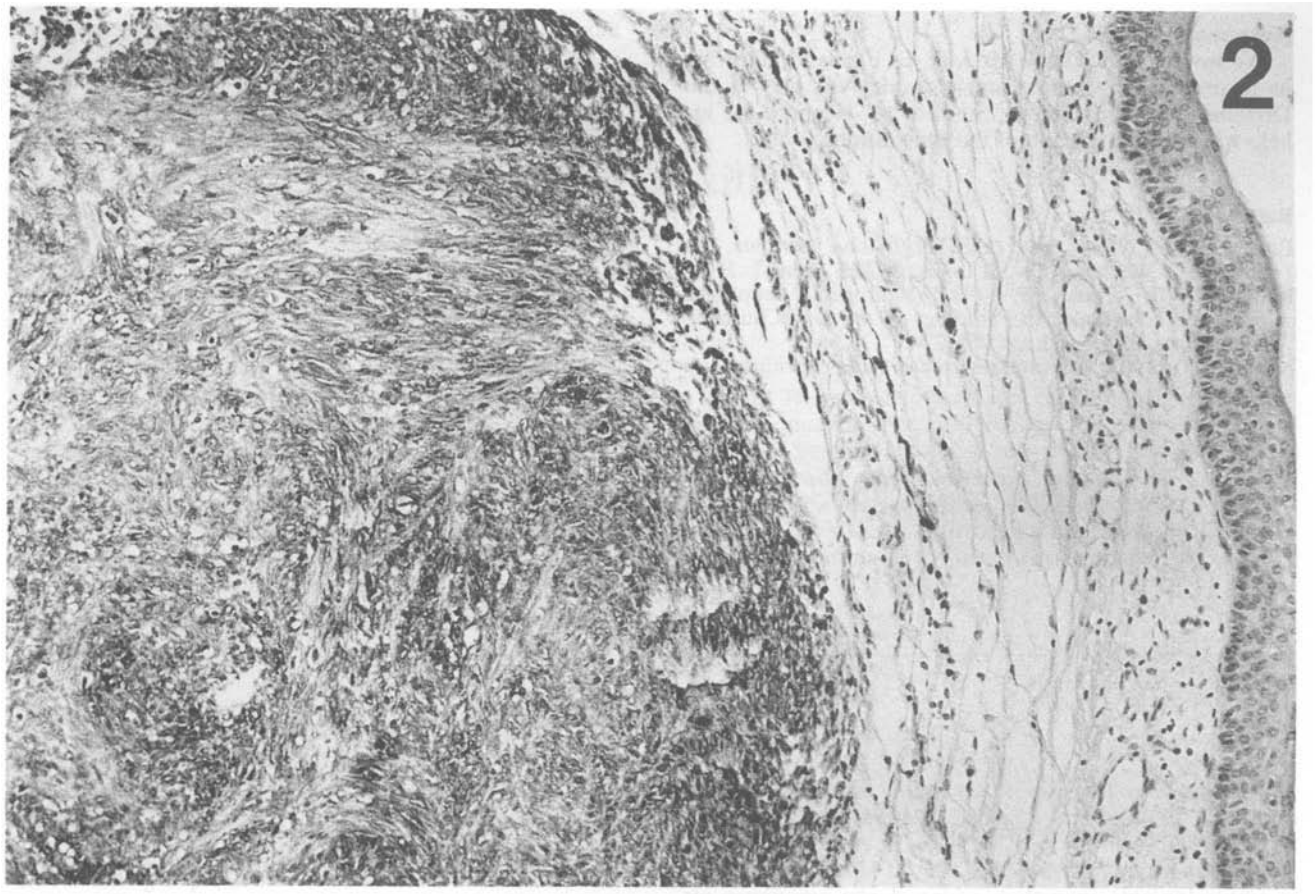

FIG. 2

Immunohistochemistry for the S100 protein shows strong (dark) labelling of the tumour beneath the unlabelled (pale) epidermis and dermis. (S100 immunostain; × 36).

cent of intracranial neoplasms (Niger, 1985). Schwannomas of peripheral nerves are usually solitary, painless, lesions and may occur anywhere in the soft tissues or the viscera but the more common locations include the soft tissue of the head and neck (especially the lateral aspect of the neck), the extremities, trunk, mediastinum and retroperitoneum (Enzinger and Weiss, 1988). There has, however, been only one previously reported case, in the English literature, of a schwannoma arising in the external auditory meatus (Wu *et al.*, 1993).

Case report

A 28-year-old Caucasian man presented to our department with a three-month history of right-sided hearing loss and with more recent bloody otorrhoea. On examination he was found to have a pale pink mass filling the bony external auditory canal. Features of a conductive deafness on that side were confirmed by pure tone audiometry (bone conduction thresholds were normal). It was decided to perform an examination under a general anaesthetic. The mass was found to be soft, very friable and arising from the postero–superior aspect of the deep canal. It was removed with a small cuff of epithelium.

Histopathology showed a well-circumscribed, solitary, compact, tumour in the dermis composed of spindle cells that displayed frequent nuclear palisading (Figure 1). The tumour cells were positively immunostained for S100 protein (Figure 2) and were negative for desmin and smooth muscle actin. Nerve bundles were not seen within the tumour. A diagnosis of schwannoma was made based on all these features.

Once a diagnosis of schwannoma had been made, the patient underwent a high resolution CT scan of the temporal bone, to exclude the possibility of an underlying schwannoma of the facial or vestibulocochlear nerve, or of the labyrinth. This was unremarkable and the patient has been followed up for 18 months with no sign of recurrence.

Discussion

Otolaryngologists usually encounter schwannomas arising from the distal portion of the vestibulocochlear nerve inside the internal acoustic meatus and occasionally expanding into the cerebellopontine angle. There have been reports of large acoustic neuromas presenting as middle ear tumours (Storrs' 1974) and as a mass within the external auditory canal (Tran Ba Huy *et al.*, 1987). The previously reported case of a solitary schwannoma arising within the external auditory canal (Wu *et al.*, 1993) showed very similar features to our own, although in their case the patient's presenting symptom was one of otalgia as well as bloody otorrhoea, the latter presumably due to the vascularity of the tumour. They also excised the tumour via a post-auricular rather than permeatal approach. In our case we have been able to confirm the diagnosis by appropriate immunohistochemical staining and thus ruled out the possibility of other spindle cell tumours, such as leiomyomas, which may cause diagnostic confusion.

This rare pathology appears to be adequately managed by localized excision biopsy but in view of the possibility of cranial nerve schwannomas presenting in the middle or external ear, further radiological investigation is advised.

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