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Pathology in Focus

Ancient schwannoma masquerading as parotid pleomorphic adenoma

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Abstract
Pleomorphic adenoma of the parotid gland is common. We report a typical case of a parotid gland swelling which clinically, radiologically and cytologically represented a pleomorphic adenoma. Only following surgical excision and histological examination however, was the true diagnosis of ancient schwannoma made.

Benign peripheral nerve sheath tumours should always be considered in the differential diagnosis of parotid gland tumours.

Key words: Parotid gland neoplasms; Neurilemmoma; Schwannoma, ancient

Case report

A fit 42-year-old man presented with a 10 year history of a lump in the left parotid region. It had been asymptomatic but was recently noted to be increasing in size. On examination there was a 3 cm lesion in the region of the left parotid gland (Figure 1). There was no intra-oral swelling, the facial nerve was intact and no cervical lymphadenopathy was palpable.

A computerized tomography (CT) scan revealed a well-circumscribed rounded mass in relation to the posterior part of the superficial portion of the left parotid gland (Figure 2). The density of this homogenous lesion on the scan was slightly greater than parotid tissue but could be distinguished from muscle. Subsequent fine needle aspiration cytology identified abundant myxoid material which contained occasional bland spindle cells. The features were considered in keeping with the clinical diagnosis of a pleomorphic adenoma. In view of the recent increase in size of the lump, left superficial parotidectomy was performed.

On histological examination the lesion was a partially encapsulated mass with a gelatinous consistency and microscopically was composed of hypocellular myxoid tissue containing bland spindle cells and prominent vascular spaces (Figures 3 and 4). The cells were strongly S100 positive confirming their neural nature. The features were those of a benign ancient schwannoma. The patient made an uneventful recovery without any post-operative facial nerve deficit.

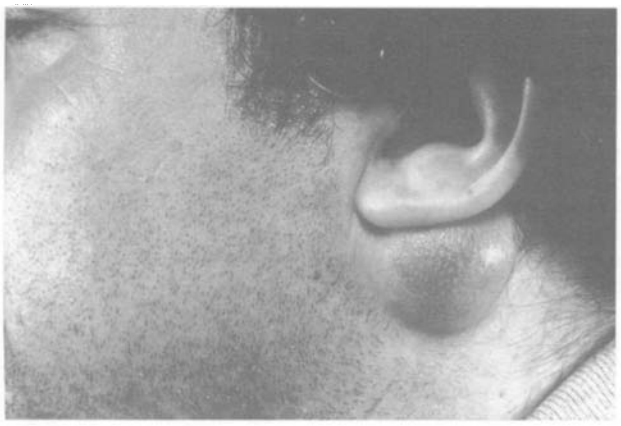

FIG. 1
Photograph of left parotid swelling.

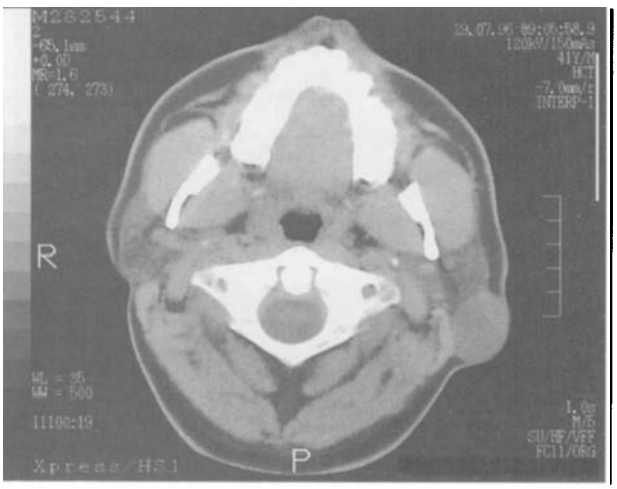

FIG. 2
CT scan showing well circumscribed homogenous lesion arising from the superficial aspect of left parotid gland.

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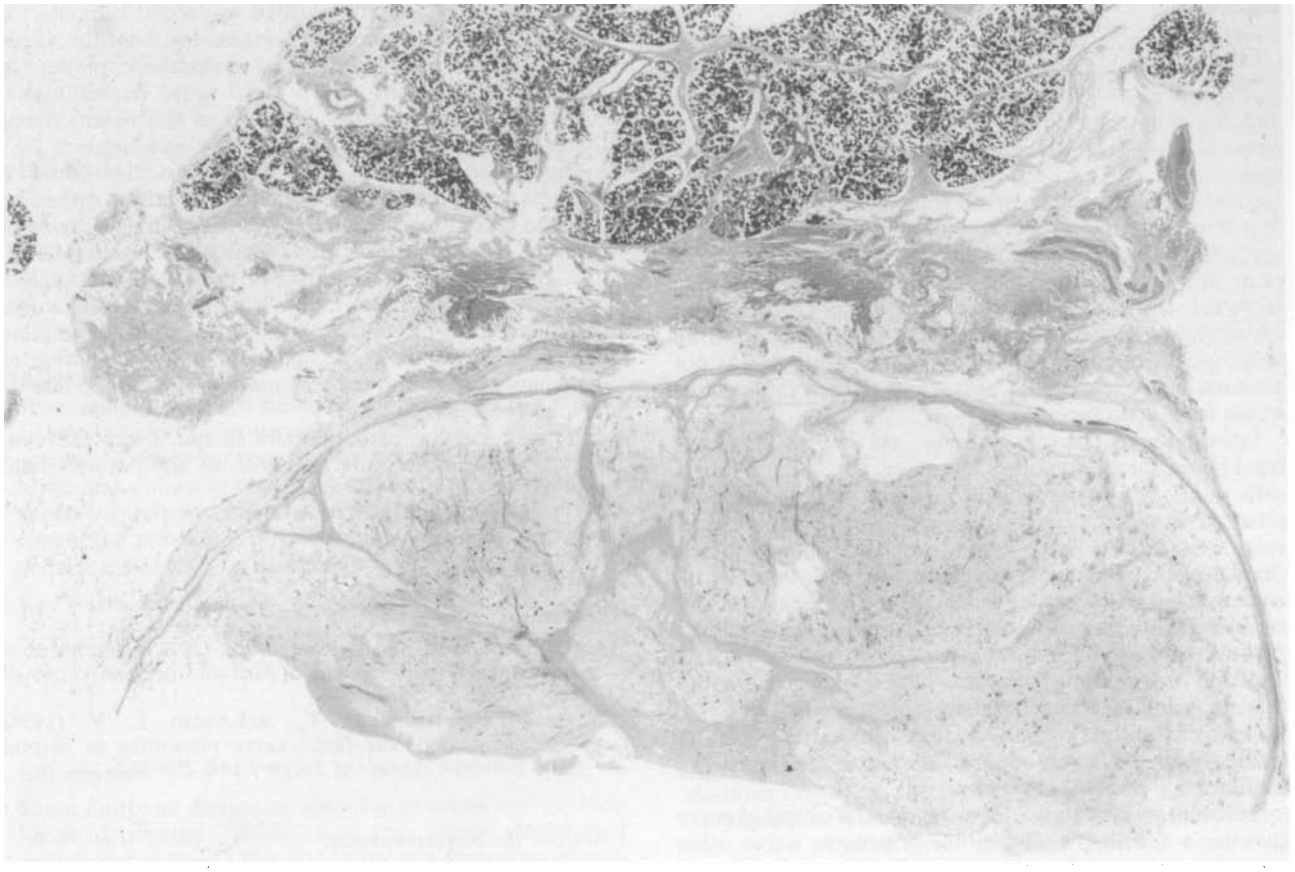

FIG. 3
Section of normal salivary tissue (top left) with adjacent encapsulated ancient schwannoma. (H & E; × 40).

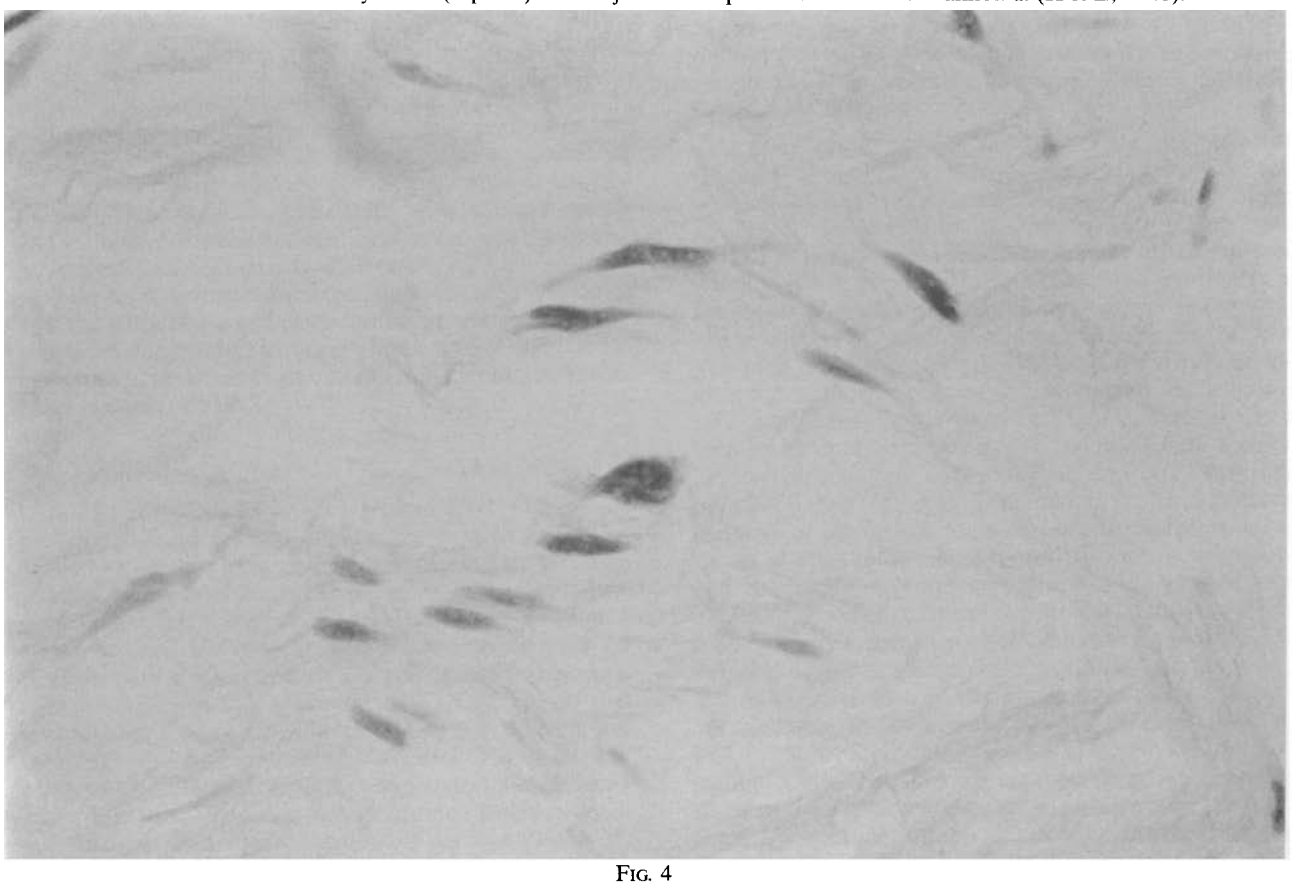

FIG. 4
High power photomicrograph of the ancient schwannoma illustrating its composition of hypocellular myxoid tissue containing bland spindle cells. (H & E; × 630).

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Discussion

Salivary gland tumours represent about three per cent of all neoplasms. Approximately 80 per cent are located in the parotid glands, 10 per cent in the submandibular glands and the remainder in the sublingual glands and other minor salivary glands. Eighty per cent of all parotid gland tumours are benign and of these some 80 per cent are pleomorphic adenomas. Given this patient's presentation of a slow growing parotid mass along with the radiological appearance and cytological features, the clinical diagnosis prior to surgery was that of pleomorphic adenoma. However, the definitive pathological diagnosis of ancient schwannoma was only reached post-surgical excision by histological examination. The mass at operation, was not associated with the facial nerve and is thought to have arisen from a cutaneous nerve.

Schwannomas (neurilemmomas) are benign, encapsulated nerve sheath tumours. They typically enlarge slowly with minimal symptoms until size and impingement on other structures makes them evident. These tumours can vary from firm solid masses to fluctuant cysts. Their characteristic histological appearance is dominated by an encapsulated lesion arising from a nerve and composed of an intimate mixture of spindle cells forming highly cellular Antoni A areas and less cellular myxoid Antoni B areas. Typically those lesions that are long-standing, as in this case, may undergo degenerative (ancient) changes dominated by large cystic myxoid areas with variable bizarre spindle cells and even occasional mitoses. (Hence the terminology 'ancient schwannoma'.)

Schwannomas can arise from any cranial or spinal nerve that has a sheath (i.e. any motor or sensory nerve other than the optic or olfactory nerves). In the head and neck the eighth cranial nerve is the most commonly affected (traditionally known as acoustic neuroma although vestibular schwannoma is more correct).

There are very few reported cases in the medical literature of schwannomas presenting as parotid swellings. Katz *et al.* (1971) reported 15 extracranial neurogenous neoplasms of which six presented as parotid tumours. Of these five were schwannomas originating from the vagus nerve, facial nerve and cervical sympathetic plexus (in three cases), and one was a facial nerve neurofibroma. Roos *et al.* (1956) reported six cases of neurilemmoma of the facial nerve presenting as parotid gland tumours.

Given the rarity of this entity and the common frequency of pleomorphic adenomas it is not surprising that the clinical, radiological and cytological diagnoses in this case were incorrect. This fortunately had no deleterious effect on the management of the lesion as complete excision was performed as for a pleomorphic adenoma. Complete excision of a schwannoma affords complete cure. Unlike pleomorphic adenoma there is no risk of malignant change and the tumour does not extend into or beyond the capsular walls.

Benign nerve sheath tumours should always be considered in the differential diagnosis of any parotid gland swelling.

References

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