CASE REPORTS

Neurilemoma of the caruncle: a clinicopathological report

I G Rennie, M A Parsons, M T Benson

Abstract

We report a case of a neurilemoma (schwannoma) arising from the lacrimal

caruncle. The clinical and light and electron microscopic features are described.

Figure 1 Neurilemoma arising from right lacrimal caruncle.

Neurilemmomas (schwannomas) are benign, encapsulated, slowly progressive tumours that arise from peripheral nerves. They are usually solitary, occur principally between the ages of 20 and 50 years, and have a predilection for the head and neck.¹ In contrast to neurofibromas, neurilemmomas are only occasionally associated with neurofibromatosis.²

Neurilemmomas account for approximately 1% of biopsies for orbital tumours.³ Intraocular lesions, presumably arising from the ciliary nerves, have been described infrequently.⁴⁻⁷ We describe the clinicopathological appearances of neurilemoma arising from the lacrimal caruncle. To our knowledge this is the first reported case of such a lesion arising from this location.

Case report

A 75-year-old female presented to the Ophthal-

Figure 2 On light microscopy the spindle cell neoplasm lies beneath the epithelium of the caruncle. A hair follicle is present at the right edge of the section. (Haematoxylin and eosin, $\times 160$.)

University of Sheffield

Department of
Ophthalmology
I G Rennie
M T Benson

Department of Pathology
M A Parsons

Correspondence to:
Mr I G Rennie, Department of
Ophthalmology, Royal
Hallamshire Hospital, Glossop
Road, Sheffield S10 2JF.

Accepted for publication
7 May 1991

Figure 3 Electron micrograph showing numerous complex interdigitating cell processes (right). On the left cellular process (arrow) is wrapped around extracellular collagen to form a pseudomesaxon. ($\times 20\,000$.)

Figure 4 An electron micrograph showing complex cellular processes surrounded by a prominent external lamina (arrow), with some redundant folds. ($\times 57\,000$.)

mology Department with a swelling arising from the right lacrimal caruncle. The patient was uncertain as to how long the lesion had been present. There was no significant ophthalmic history or evidence of neurofibromatosis. She had recently been diagnosed as suffering from an inoperable carcinoma of the pancreas.

On examination her best corrected visual acuities were right eye 6/12, left 6/12. A small, fleshy, oval lesion measuring approximately 6×4×4 mm was noted arising from the right lacrimal caruncle (Fig 1). The rest of the ocular examination gave normal results apart from pseudoexfoliation in the left eye and bilateral, mild, age-related macular changes. The lesion was removed under local anaesthetic. Her post-operative progress was uneventful.

HISTOLOGICAL EXAMINATION

Macroscopic findings. The specimen consisted of a smooth lobulated yellow lesion measuring 6×4×4 mm, which on sectioning was encapsulated and had a homogeneous yellow cut surface.

Microscopic findings. On light microscopy there was a spindle cell neoplasm beneath the epithelium and hair follicles of the lacrimal caruncle (Fig 2). The tumour had a central cellular area, with a more myxoid peripheral zone of low cellularity. It was slightly fasciculated, but nuclear palisading was absent. Mitotic figures were not seen.

On electron microscopy the spindle shaped tumour cells had numerous complex interdigitating processes; in some cells these processes wrapped around extracellular collagen to form pseudomesaxons (Fig 3). The cells had a prominent external lamina with some redundant folds (Fig 4). Luse bodies of long-spacing collagen and occasional proteoglycan particles were present in the intercellular matrix. The electron microscopic appearances were characteristic of a neurilemoma (schwannoma),⁸ and the light microscopic features were those of a benign neurilemoma.

Discussion

The lacrimal caruncle is a piece of modified skin,

covered by stratified squamous epithelium and containing hair follicles, sebaceous glands, and sweat glands.⁹ It is innervated by a branch of the infratrochlear nerve. Neurilemmomas arise as proliferations from the peripheral nerve sheath, and presumably this lesion developed from one of the terminal branches of the infratrochlear nerve.

Lesions of the lacrimal caruncle are relatively rare. In a review of 40 000 ophthalmic pathology specimens Luthra *et al* found only 112 (0.28%) lesions affecting the caruncle.¹⁰ Shields *et al* reviewed over 18 000 pathology reports and found only 57 involving caruncle.¹¹ In these two studies papillomas and naevi accounted for over half the total lesions. Neither study identified a lesion arising from a peripheral nerve. Similarly, earlier reports by Evans,¹² Wilson,¹³ and Serra¹⁴ failed to identify a tumour of peripheral nerve as a cause of a caruncular lesion. It would appear that neurilemmomas represent a rare and until now unreported form of caruncular tumour.

- 1 Rootman J. *Disease of the orbit*. Philadelphia: Lippincott, 1988.
- 2 Shields JA. *Diagnosis and management of orbital tumors*. Philadelphia: Saunders, 1989.
- 3 Shields JA, Bakewell B, Augsburger JJ, *et al*. Classification and incidence of space occupying lesions of the orbit. *Arch Ophthalmol* 1984; 102: 1606–11.
- 4 Shields JA, Sanborn GE, Kurz GH. Benign peripheral nerve tumor of the choroid: a clinicopathological correlation. *Ophthalmology* 1981; 88: 1322–9.
- 5 Rosso R, Colombo R, Ricevuti G. Neurilemmoma of the ciliary body: report of a case. *Br J Ophthalmol* 1983; 67: 585–7.
- 6 Smith PA, Damato BE, Ko MK, Lyness RW. Anterior uveal neurilemmoma – a rare neoplasm simulating malignant melanoma. *Br J Ophthalmol* 1988; 71: 34–40.
- 7 Freedman SH, Elner VM, Donev I, Gunta R, Albert DM. Intraocular neurilemmoma arising from the posterior ciliary nerve in neurofibromatosis. *Ophthalmology* 1988; 95: 1559–64.
- 8 Ghadiali FN. *Diagnostic electron microscopy of tumours*. London: Butterworths, 1985.
- 9 Wolff E. *Anatomy of the eye and orbit*. Philadelphia: Saunders, 1986.
- 10 Luthra CL, Doxanas MT, Green WR. Lesions of the caruncle: a clinicopathologic study. *Surv Ophthalmol* 1978; 23: 183–95.
- 11 Shields CL, Shields JA, White D, Augsburger JJ. Types and frequency of lesions of the caruncle. *Am J Ophthalmol* 1986; 102: 771–8.
- 12 Evans WH. Tumors of the lacrimal caruncle: a study of two hundred collected cases. *Arch Ophthalmol* 1940; 24: 83–106.
- 13 Wilson RP. Tumours and cysts of the lacrimal caruncle. *Trans Ophthalmol Soc N Z* 1958; 11: 23–32.
- 14 Serra GM. Tumori della caruncula lacrimale. Studio clinico anatomico patologico. *Boll Oculist* 1928; 7: 783–820.