tissue has not been demonstrated. In this case, cytological examination obtained from the aqueous humour demonstrated a variety of severe atypical lymphoid cells mimicking lymphoma cells in the nasal cavity. These results indicated that anterior chamber cells did not originate from endogenous uveitis, but had invaded from the nasal NK/T cell lymphoma using this method.

Many NK/T lymphoma cases are invariably associated with EBV, as reported previously.^{4,5} In fact, it is likely that EBV infects NK/T lymphoma cells in humans.⁵ In this case, EBER was detected in the nasal NK/T lymphoma cells, and EBV DNA was markedly detected in the aqueous humour by PCR Southern blot analysis. These results suggest that lymphoma cells detected in the aqueous humour originated from the nasal lymphoma as a primary lesion. The primary routes by which nasal NK/T lymphoma cells invaded to the anterior chamber remain unclear. In this case, MRI indicated that the lymphoma cells had already formed metastatic lesions in the brain 3 months before the onset of ocular symptoms. This suggests that the route of the lymphoma invasion from the nasal cavity to the anterior chamber may be indirectly systemic.

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Phakomatous choristoma of the eyelid: a case with associated eye abnormalities

Phakomatous choristoma is a rare lesion, first reported in 1971¹ with a further 18 cases reported to date. Previously reported cases have not been identified preoperatively, nor associated with ocular abnormalities except

as a secondary effect.^{2–3} We report here a case which was suspected on clinical examination, and which is associated with other eye abnormalities.

Case report

This healthy female patient first presented at the age of 2 days with a red left eye, and she was noted to have a lump in the nasal aspect of the left lower eyelid which was initially diagnosed as a dacryocystocele. The red eye resolved, but the eyelid swelling persisted despite regular massage. There was also concern about left amblyopia, astigmatism, and myopia. On specialist oculoplastic review, the possibility was raised of phakomatous choristoma, and excision with ocular examination under general anaesthetic was carried out at age 10 months.

At surgery, the eyelid mass was removed with no complications. Examination showed a normal right eye, but the left eye showed a colobomatous hypoplastic disc with a staphyloma. Refraction was approximately emmetropic.

Following surgery, the eyelid mass did not recur. However, the patient has developed progressive myopia in both eyes, with left amblyopia. Her most recent refraction at the age of 5 years is –11.25D right eye and –22.0D left eye, and her visual acuity is 6/18 right eye, 3/60 left eye.

Histology of the eyelid mass showed small nests and cords of epithelial cells within a dense fibrous stroma. The cells were bland with pale cytoplasm, and in areas formed vesicle-like structures containing degenerate swollen cells (fig 1A). Around the nests was a prominent basement membrane (fig 1B), and occasional psammoma-like bodies were present. The morphological appearance and immunohistochemical staining pattern (cells positive for vimentin and S100, negative for the pancytokeratin AE1/AE3) were typical of phakomatous choristoma (fig 2A and B).

Comment

Phakomatous choristoma is a lesion first described over 30 years ago. It is viewed as a proliferation of ectopic lens tissue, which presents at a young age and may enlarge because the abnormal cells are attempting to proliferate and differentiate. The clinical presentation is with a mass located at the nasal aspect of the medial eyelid and/or orbit. The histological appearance is of lens-type epithelium, with degenerate areas reminiscent of the Wedl or “bladder-like” cells of cataract. Previously reported cases have shown immunohistochemical and ultrastructural appearances consistent with a lenticular origin.^{3–7}

Theories of pathogenesis include (1) surface ectoderm “dipping down” into the mesoderm of the developing eyelid, (2) migration of putative lens tissue through the closing optic fissure, and (3) the site of origin of the invaginating lens being located in the area destined to form the nasal lower lid.^{1,5,8–10}

None of the previously reported cases has had any other ocular or orbital abnormalities, apart from astigmatism or epiphora attributable to the eyelid lesion that resolved post-operatively. The patient we report here also has a colobomatous hypoplastic optic disc with staphyloma, and severe myopia. Although the eye abnormalities here may be coincidental, the presence of a left optic disc coloboma and staphyloma suggests that there

Figure 1 (A) Vesicle-like structures are present with thick basement membrane-like material and a swollen cell (haematoxylin and eosin ×20). (B) The basement membrane surrounding the epithelial islands is accentuated (DPAS ×10).

Figure 2 (A) S100 immunoreactivity is restricted to epithelial cells (S100 ×10). (B) The epithelial cells are strongly positive for vimentin (Vimentin ×10). There is also vimentin positivity in stromal cells.

may have been an abnormality of closure of the optic fissure.

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Granular cell tumour: a rare caruncle lesion

Granular cell tumour is a benign neoplasm of a Schwann cell in origin.¹ Rarely this tumor arises in the orbit, skin of the eyelid, palpebral conjunctiva, lacrimal sac, caruncle, and inferior oblique muscle.² We report a case of granular cell tumour of the caruncle in an adult patient with mechanical ectropion and immunohistochemical features of this lesion.

Case report

A 72 year old male patient was evaluated for ectropion of the right lower eyelid, 2 months in duration. Examination revealed a 1 cm, firm, movable, reddish caruncle mass in the right eye associated with ectropion (fig 1A). Computed tomography of the orbit revealed a hyperdense lesion located at the anterionasal side of the globe (fig 1B), and the patient underwent incisional biopsy.

Histopathology of the mass revealed sheets of large polygonal cells with relatively small, bland appearing nuclei without prominent nucleoli and copious amounts of brightly eosinophilic granular cytoplasm (fig 2). There was no mitotic activity or necrosis. The mass contained a sparse lymphoid infiltrate made up of CD3 and CD20 positive lymphocytes and stained for both kappa and lambda immunoglobulins. The large polygonal tumoral cells were positive for S-100, CD68, and inhibin- α (fig 2C and D).

Ki-67 stain showed a low mitotic index. Histopathological diagnosis was granular cell tumour. Subsequently, the patient underwent total excision of the lesion that revealed the above histological features. Follow up examination at 4 months showed no recurrence.

Comment

This case shows that granular cell tumour, although rare, can present as an isolated caruncle mass. Clinically, because of their smooth yellowish pink or red appearance they may mimic other caruncular tumours such as sebaceous tumours and oncocytoma. However, on histopathological examination, the diagnosis of granular cell tumour can often be made on haematoxylin and eosin sections as a result of its characteristic

morphological features. Nevertheless, immunohistochemical studies may be needed to rule out other lesions such as oncocytoma. Immunohistochemically the tumour cells are positive for S-100 and CD68. Expression of S-100 in the granular cells supports the neural origin of this tumour.³ Positive stain with CD68 (a macrophage marker) can be explained by the intracytoplasmic accumulation of phagolysosomes and does not reflect a histiocytic origin.⁴ Additionally, it has been shown that the granular cells are also positive for inhibin- α .⁵ Although inhibin- α has been demonstrated to be strongly supportive of a granular cell tumour, the relation between this expression and pathogenesis of the granular cell tumour is unclear.³ Histologically, the present case has shown typical features of granular cell tumour on

Figure 1 (A) Clinical photograph revealing a caruncle mass in the right eye. (B) Axial section of a computed tomographic scan shows a hyperdense lesion located in the caruncle area.

Figure 2 Caruncle revealing eosinophilic mass and lymphocytic infiltration (A). Higher magnification shows eosinophilic cells with abundant granular cytoplasm and small oval nuclei (B). The neoplastic cells stain positive with CD68 (C) and inhibin- α (D).