Figure 2 Morphological structure of early-onset Fuchs' endothelial corneal dystrophy corneas (A) specular endothelial microscopy of individual II:2. There is cellular pleomorphism and multiple non-reflecting areas. (B) Histology of cornea of individual I:1. There is a thickened Descemet's membrane but without posterior excrescences.

Local ethics approval was obtained for this study.

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Three oncocytomas in a short space of time

Oncocytomas of the caruncle are rare tumours, found in 3–8% of caruncle excision biopsies.¹

They occur most commonly in elderly women. Clinically, these tumours tend to present as a slow-growing, asymptomatic mass that is often tan red in colour.² Treatment is by complete surgical excision and recurrence is unusual, although very rare malignant oncocytomas occurring in the ocular adnexae have been reported,³ and there has been a case of persistent rhinorrhea caused by an oncocytoma occurring in the lacrimal sac with extension into the nasolacrimal duct.⁴

Case reports

A 38-year-old woman presented with a two-year history of a slowly enlarging cystic lesion of the left medial canthus, which was causing increasing irritation. On examination, there was a smooth, pink, fluid-filled lesion measuring 4 mm in maximum diameter (fig 1). The cyst was excised under local anaesthesia.

An 81-year-old man with a history of diabetic retinopathy presented for routine follow-up and was found to have a cystic lesion on the left lower eyelid, lying just proximal to the medial canthus. On examination, there was a smooth, yellow cystic lesion

Figure 1 Smooth, fluid-filled lesion of medial canthus. Informed consent was obtained for publication of this figure.

Figure 2 Tumour composed of bland cells with abundant granular, eosinophilic cytoplasm (haematoxylin and eosin, original magnification $\times 200$).

that was thought clinically to be a cyst of Moll. The lesion was excised with no subsequent recurrence.

An 80-year-old man presented to the clinic complaining of a lesion affecting the right eye. On examination, a small cyst was noted adjacent to the caruncle. Excision was performed and one 7/0 Vicryl suture was put in to appose the tissue defect, with a provisional clinical diagnosis of a simple conjunctival cyst.

Comment

All three specimens appeared similar upon histological examination (fig 2). Each lesion appeared well circumscribed and was composed of nests and trabeculae of uniform, polygonal cells with abundant, finely granular eosinophilic cytoplasm.

The caruncle is a unique anatomical structure containing elements of both conjunctiva and skin.⁵ Oncocytomas (oxyphilic adenomas) of the caruncle are rare tumours accounting for only 3–8% of masses of the caruncle.⁶ These cases are unusual in that, to our knowledge, this is the first series in which three cases presented in the space of eight weeks. This begs the question: are we misdiagnosing or indeed underdiagnosing these tumours, because not all are sent for pathology and how important or relevant is this?

Oncocytomas are benign neoplasms of oncocytic cells, which can occur at a variety of sites. Ocular adnexal oncocytomas are usually situated in the lacrimal drainage apparatus of the caruncle.⁷ Cases occurring in other sites such as the eyelid⁸ have also been documented. The differential diagnosis should include melanocytic melanoma at the top of the list; as this carries the worst prognosis, melanocytic naevus, benign epithelial tumours, pyogenic granulomas and haemangiomas, along with several other rarer lesions.⁹

As already mentioned, oncocytomas are by and large benign in nature and usually only require excision for cosmetic purposes or if they cause irritation to the patient. They do, however, have a real potential to recur in cases of incomplete excision¹⁰ and can be locally aggressive and occasionally turn malignant.

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Centripetal retinal capillary proliferation in idiopathic parafoveolar telangiectasis

We report two cases with idiopathic parafoveolar telangiectasis (IPT) that showed a deep invasion of perifoveal capillaries within the substance of the fovea, obliterating the foveal avascular zone. All four eyes revealed characteristic findings of IPT, but demonstrated a deep layer of telangiectatic capillaries occupying the expected region of the foveal avascular zone, with retention of relatively good visual acuity. These cases indicate that the control of capillary growth in patients with IPT is defective, but the presence of vessels alone does not cause a marked decrease in visual acuity.

IPT is an acquired retinal disorder consisting of bilateral deep proliferation of telangiectatic perifoveal capillaries through the depth of the parafoveolar macula, and also centripetally to an extent—in that patients with IPT have smaller foveal avascular zones (FAZs) than normal patients.¹ We report two patients with IPT who showed a deep invasion of perifoveal capillaries within the central fovea, causing an obliteration of the FAZ.

Case report

Case 1: A 49-year-old female had experienced gradual vision loss for several years bilaterally without treatment. Her visual acuity was 20/30 right eye and 20/100 left eye. Both eyes

revealed telangiectatic capillaries, intraretinal refractile deposits and right-angle venules in the macula (fig 1). Fluorescein angiography clearly demonstrated a deep layer of telangiectatic capillaries occupying the entire expected region of the FAZ. Optical coherence tomography (OCT) bilaterally demonstrated blunting of the foveal depression, hyper-reflectivity within the central fovea and of the outer nuclear layer in the macula consistent with the vascular infiltration, and disruption of the boundary between photoreceptor inner and outer segments.

Case 2: A 59-year-old female had a gradual vision loss to 20/50 right eye and 20/40 left eye. Both eyes revealed telangiectatic capillaries, intraretinal refractile deposits and right-angle venules (fig 2). A deep layer of telangiectatic capillaries invading into the expected region of the FAZ was highlighted by fluorescein angiography. OCT bilaterally showed hyper-reflectivity of the outer nuclear layers in the macula and a break of the hyper-reflective line between photoreceptor inner and outer segments. The right eye had a loss of the foveal depression and a small amount of subfoveal fluid, whereas the left eye had an intraretinal cavitation.

Comment

In addition to telangiectatic vessels, our patients had right-angle venules, greyish-white opacification of the macula, and inner retinal crystalline deposits, all of which are typical for IPT. Because of these findings, the likelihood of the vascular findings being congenital is unlikely. Congenital macrovessels² have been

reported with increased vascularity in the foveal region; however, macrovessels are usually solitary, unilateral, and are not associated with retinal opacification or inner retinal crystalline deposits. During embryological development, a superficial layer of capillaries forms in association with astrocytes around the future site of the foveal depression.³ These vessels are excluded from the central foveal region during development.⁴ Later, a deeper layer of capillaries forms, apparently secondary to vascular endothelial growth factor release by Muller cells.^{3,5} After the vessels form, the astrocytes retreat from around the fovea.⁴ For vessels to invade the central fovea later in life, some stimuli for their growth must be present. There are two principle cell types in the central fovea: photoreceptors and Muller cells. As Muller cells are responsible for directing the deeper layer of capillaries during embryology and our patients had a deep proliferation of capillaries into a region that is ordinarily occupied only by photoreceptors and Muller cells, there seems a possibility that the abnormal vessel growth was directed by Muller cells.

Abnormalities involving Muller cells have been implicated in macular structural abnormalities seen in IPT,⁶ including foveal cavitation, which occurred in one eye of the current cases. We⁶ suggested that such cavitation is probably attributed to the alteration at the site of a specialized Muller cell found in the inner portion of the fovea centralis—namely, the Muller cell cone.⁷ Recent reports have also demonstrated a gap at the level of the boundary of photoreceptor inner and outer

Figure 1 Case 1. A 49-year-old female with idiopathic parafoveolar telangiectasis and obliteration of the foveal avascular zone. Color fundus photograph (A, right eye, B, left eye) demonstrated telangiectatic capillaries, intraretinal refractile deposits, right-angle venules and loss of macular transparency. Fluorescein angiography (C, right eye, D, left eye) revealed a deep layer of telangiectatic capillaries occupying the expected region of the foveal avascular zone. Optical coherence tomography (E, right eye, F, left eye), taken horizontally, demonstrated blunting of the foveal depression and hyper-reflectivity of the central fovea and of the outer nuclear layer in the macula. Disruption of the hyper-reflective line, considered as the boundary between photoreceptor inner and outer segments, was detected (E, F, between arrowheads).