PostScript

LETTERS

Metachronous ipsilateral conjunctival then choroidal melanoma

Conjunctival melanomas have been reported to invade the cornea, sclera, eyelids, and orbit. Reports of intraocular invasion are rare.¹⁻³ We have found no reports of ipsilateral metachronous primary conjunctival then choroidal melanoma.

Case report

A 79 year old woman presented to the New York Eye Cancer Centre with a history of biopsy proved conjunctival melanoma. Examination revealed a visual acuity of 20/20 in both eyes. Conjunctiva melanosis (AJCC-T3) was noted to involve the entire bulbar surface, extending onto the cornea and into both fornices (fig 1).^{4,5} No evidence of deep scleral invasion or intraocular extension was noted by ophthalmoscopy or high frequency ultrasonography. Treatment required local resection with adjuvant cryotherapy.⁶ All nodular conjunctival tumours and corneal epithelial melanosis (plus 2 mm margins) were removed. Removal of the subconjunctival tumour required a lamellar sclerectomy. Adjuvant cryodestruction was applied to the normal appearing scleral bed.⁶ After wound healing the residual epithelial disease was treated with a 28 day course of topical mitomycin 0.04% chemotherapy.⁷ Histopathology revealed malignant melanoma (AJCCpT3) in the conjunctiva, cornea, and sclera arising from primary acquired melanosis with atypia.^{4,5} The melanoma was composed of predominantly spindle and small epithelioid cells (fig 2, right). Seven months after treatment there was no residual or recurrent conjunctival tumour (fig 1). Seventeen months after surgery (4 months after her last dilated fundusoscopic examination) our patient noted a sudden loss of vision. Ophthalmic examination revealed light perception, no recurrent conjunctival, corneal or scleral melanoma and no palpable preauricular or cervical adenopathy. Ophthalmoscopy was precluded by vitreous haemorrhage. B-scan ultrasonography revealed a mushroom-shaped choroidal melanoma with intrinsic vascularity (blood flow), surrounded by dense vitreous haemorrhage with no extrascleral tumour extension (fig 2 left, and BJO website (www.bjophthalmol.com/supplemental)).⁸ The choroidal melanoma had basal dimensions of 20×19.3 mm and an apical height of 12.4 mm. A metastatic survey including a whole body fluorodeoxyglucose-18 positron emission tomography/computed tomography (FDG PET/CT) fusion imaging was negative, but revealed a hypermetabolic choroidal melanoma (standardised uptake value of 15).⁹ Transvitreal fine needle aspiration biopsy revealed malignant melanoma. Subsequent orbital exenteration was followed by adjuvant external beam radiation therapy (5040 cGy in 28 daily fractions).

Histopathology of the orbital contents revealed no evidence of residual conjunctival, corneal, orbital, or adnexal melanoma. Centred at the equator, the choroidal melanoma had broken through Bruch's membrane to form a classic mushroom-shape surrounded by haemorrhage. The tumour was predominantly composed of epithelioid cells (fig 2, middle). No evidence of scleral fistulae, dehiscence, sclerostomy, or tumour laden emissary vessels was found in evaluation of 60 histopathological sections. Despite treatment, our patient died of metastatic melanoma 15 months after orbital exenteration and 32 months after initial presentation.

While choroidal melanomas are rare and conjunctival melanomas are rarer, the probability that one patient would have both tumours is extremely low. However, we carefully examined and found "intact" sclera beneath the mushroom-shaped choroidal melanoma as well as differing tumour cell morphologies. Therefore, we present a unique case of diffuse multifocal conjunctival melanoma occurring on the same eye as a subsequent primary choroidal melanoma.

P T Finger

The New York Eye Cancer Centre, New York City, New York, USA

Figure 1 (Top) Composite of four slit lamp photographs demonstrate the distribution of primary acquired melanosis and conjunctival melanoma affecting the right eye. (Bottom) Composite of four slit lamp photographs taken 7 months after a combination of excision, cryotherapy and subsequent adjuvant topical mitomycin chemotherapy. No evidence of residual or recurrent tumour was present.

Figure 2 (Left) Three dimensional B-scan ultrasound reconstruction reveals a AJCC-T3 mushroom-shaped choroidal melanoma surrounded by a dense vitreous haemorrhage. (see BJO website (www.bjophthalmol.com/supplemental) 20 MHz dynamic B-scan ultrasound examination demonstrates blood flow “twinkling” within the tumour). (Middle) Histopathological evaluation of the exenteration specimen revealed no evidence of residual conjunctival melanoma and an intact sclera at the base of the predominantly epithelioid cell (pT3) choroidal melanoma (haematoxylin and eosin $\times 10$).⁴ (Right) In contrast, histopathological evaluation of the original conjunctival melanoma specimen revealed plump spindle cells and small epithelioid cells with moderate pigment production characterise this malignant melanoma of conjunctival origin. There is an attendant inflammatory response (haematoxylin and eosin $\times 40$).

P T Finger, C E Iacob, S A McCormick

The New York Eye and Ear Infirmary, New York City, New York, USA

Correspondence to: Paul T Finger, The New York Eye Cancer Centre, 115 East 61st Street, New York City, New York 10021, USA; pfinger@eyecancer.com

doi: 10.1136/bjo.2006.093799

Accepted for publication 1 May 2006

Financial disclosure: No author has any financial interest in the subject matter presented. Research Supported by The Eye Care Foundation, Inc, New York City, New York, USA.

See BJO website (www.bjophthalmol.com/supplemental) for a further figure.

References

- 1 Lommatzsch PK, Werschnik C, Gutz U. [Intraocular invasion of melanoma of the conjunctiva]. *Klin Monatsbl Augenheilkd* 1999;**215**:370–2.
- 2 Gow JA, Spencer WH. Intraocular extension of an epibulbar malignant melanoma. *Arch Ophthalmol* 1973;**90**:57–9.
- 3 Tinning S. Malignant melanoma of the conjunctiva and iris in a case of primary acquired melanosis of the conjunctiva. *Acta Ophthalmol (Copenh)* 1978;**56**:837–41.
- 4 Haik B, Ainbinder DJ, Finger PT, et al. Part X: Ophthalmic sites (carcinoma of the eyelid, carcinoma of the conjunctiva, malignant melanoma of the conjunctiva, malignant melanoma of the uvea, retinoblastoma, carcinoma of the lacrimal gland, sarcoma of the orbit). In: Greene FL, Page DL, Fleming ID, et al, eds. *AJCC cancer staging manual*. 6th ed. New York: Springer-Verlag, 2002:347–84.
- 5 Finger PT. Do you speak ocular tumor? *Ophthalmology* 2003;**110**:13–14.
- 6 Finger PT. “Finger-tip” cryotherapy probes: treatment of squamous and melanocytic conjunctival neoplasia. *Br J Ophthalmol* 2005;**89**:942–5.
- 7 Kurli M, Finger PT. Topical Mitomycin chemotherapy for conjunctival malignant melanoma and primary acquired melanosis with atypia: 12 years’ experience. *Graefes Arch Clin Exp Ophthalmol* 2005;**243**:1108–14.
- 8 Romero JM, Finger PT, Rosen RB, et al. Three-dimensional ultrasound for the measurement of choroidal melanomas. *Arch Ophthalmol* 2001;**119**:1275–82.

- 9 Reddy S, Kurli M, Tena LB, et al. PET/CT imaging: detection of choroidal melanoma. *Br J Ophthalmol* 2005;**89**:1265–9.

Combination photodynamic therapy and juxtascleral triamcinolone acetate for the treatment of a peripapillary choroidal neovascular membrane associated with papilloedema

Peripapillary choroidal neovascularisation is an uncommon entity that can be associated with significant visual loss. It has been noted with papilloedema resulting from pseudotumour cerebri.¹ Treatment for peripapillary choroidal neovascularisation has involved observation, thermal laser photocoagulation, or surgical excision.² We report a case of peripapillary choroidal neovascularisation from papilloedema secondary to pseudotumour cerebri that was successfully treated with combination photodynamic therapy and juxtascleral triamcinolone acetate.

Case report

A 27 year old woman presented to the neuro-ophthalmology clinic for headaches and transient visual obscurations in both eyes. Visual acuity was 20/20 in both eyes and fundus examination was significant for optic nerve oedema in both eyes. After undergoing diagnostic testing, which included visual field analysis, lumbar puncture, and magnetic resonance imaging, a diagnosis of pseudotumour cerebri was firmly established. The patient was started on oral acetazolamide and noticed improvement of symptoms. At a follow up visit 4 months later, she presented with progressive vision loss in the left eye. Visual acuity was 20/30 in the left eye and fundus examination revealed optic nerve oedema, in addition to subretinal fluid and blood adjacent to the nerve. Fluorescein angiography was performed and confirmed the presence of a peripapillary choroidal neovascular membrane (fig 1). The patient underwent combination treatment with photodynamic therapy with verteporfin (Visudyne, Novartis Pharmaceuticals, East Hanover, NJ, USA) and juxtascleral triamcinolone acetate on the same day. The spot size for photodynamic therapy was determined by measuring the

greatest radial distance from the optic nerve edge to the border of the area of leakage on the fluorescein angiogram and a total dose of 18 J/cm² was delivered. Triamcinolone acetate, 40 mg, was injected into the juxtascleral space after a conjunctival cutdown was performed 8 mm posterior to the limbus. Six months after combination therapy, visual acuity in the left eye improved to 20/20 and there was resolution of the subretinal fluid and no evidence of leakage from the choroidal neovascular membrane (fig 2). In addition, intraocular pressure remained within normal limits at all office visits.

Comment

The association of choroidal neovascularisation with papilloedema is not completely understood. It has been suggested that the physical deformation of the peripapillary tissues may create the required path for the growth of the choroidal neovascular membrane.³ Laser photocoagulation for peripapillary choroidal neovascularisation causes damage to the overlying retina and has been associated with vitreous haemorrhage and branch arteriole occlusion. Surgical removal of peripapillary lesions is invasive and can often lead to defects in the retinal pigment epithelium.² Photodynamic therapy has recently been reported to be safe and successful in the treatment of peripapillary choroidal neovascularisation from age related macular degeneration and presumed ocular histoplasmosis syndrome.⁴ The advantage of photodynamic therapy is the reduced risk of collateral damage to surrounding tissue, compared to surgical excision and thermal laser photocoagulation. As it has been used in the treatment of circumscribed choroidal haemangioma, photodynamic therapy does not appear to have an adverse effect on the optic nerve.⁵ However, photodynamic therapy can cause a release of angiogenic factors. Triamcinolone acetate has antiangiogenic and antipermeability effects and combination therapy with photodynamic therapy and juxtascleral triamcinolone acetate has been shown to be beneficial in treating subfoveal choroidal neovascular membranes related to age related macular degeneration.⁶

Peripapillary choroidal neovascularisation can cause visual loss in patients with papilloedema from pseudotumour cerebri.