Isolated focal melanocytes collection in the lacrimal sac

Editor,—Although the presence of melanocytes located within and under the epithelium of the nasal cavity and paranasal sinuses has been reported, it appears to be a rare finding. Further, only 17 cases of malignant melanoma of the lacrimal sac have been reported. We came across unusual, and unaccounted for, focal collections of melanocytes in the lacrimal sac of a patient and report this finding.

CASE REPORT
A 55 year old woman presented to the ophthalmology department of the Schieffelin Leprosy Research and Training Centre with a left sided lacrimal mucocele. Since she also had a cataract that needed surgery, a dacryocystectomy was done in January 1999. During surgery, when the lacrimal sac was being dissected, a localized small area of black pigmentation was seen on the sac. The excised sac was sent for histopathological examination to rule out melanoma. There were no associated pigmentation on the skin overlying the sac or any fistulas in the region.

Histopathological examination of the lacrimal sac showed focal and diffuse collections of cells containing blackish-brown pigments in the stroma and the epithelial cells of the sac. Inflammatory cell collections consisting of lymphocytes, histiocytes, and plasma cells were also seen in the stroma (Fig 1). The intracellular pigment gave negative results when stained with Perl's stain for intracellular pigment. The pigment was completely bleached and removed, thus confirming that the pigment present was melanin.

COMMENT
The pigmentation in the lacrimal sac was a chance finding. The cells containing the pigment were confirmed to be melanocytes by the Fontana-Masson staining. The origin of malignant melanoma of the sac is uncertain. Presumably, it can arise from nests of melanocytes located either within the epithelium of the lacrimal sac or in the underlying stroma. This histopathological finding establishes that melanocytes can be found in isolation in the lacrimal sac. A morphologically similar histopathology can be seen in blue naevus and in the naevus of Ota but clinically the patient did not exhibit any ocular melanosis nor was the skin of the face pigmented.

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Figure 1 Photomicrograph of lacrimal sac showing blackish-brown pigments in the epithelium and stroma. Collections of lymphocytes and plasma cells are seen in the stroma adjacent to the epithelium (haematoxylin and eosin, original magnification ×200).

Figure 2 Photomicrograph of lacrimal sac showing blackish pigments in the epithelial cells and stroma (Fontana-Masson, original magnification ×200).

Figure 2 Distortion of pupil after transcleral diode laser cyclophotocoagulation. A "pop" effect occurred at the 2 o'clock position.

COMMENT

It appears likely that pupillary distortion in this patient was the result of a peripheral iris injury, caused by an anterior displacement of the laser spot. The “pop” effect was caused by the distension of the iris pigment epithelium. TCDLC using the G-probe is applied at the distance of 1.2 mm posterior to the surgical limbus, parallel to the visual axis, without visualisation of the ciliary body. At least three aspects should be taken into account in the discussion of causes for the displacement of laser spots during TCDLC. (1) Even in normal, emmetropic eyes, the anterior margin of the lines of the iris pigment epithelium. temporary treatment of the condition. Her ophthalmic history included surgery to her left squint as a child and left amblyopia. She was otherwise fit and well and took no systemic medication.

On examination her best corrected visual acuities were 6/6 in the right eye and 6/6 in the left. Her anterior segments were normal and her IOPs were 40 mm Hg in the right eye and 15 mm Hg in the left. Initial medical treatment failed to control her IOP and a right trabeculectomy was carried out 2 months after presentation. Since the operation her right IOP has been controlled but her right pupil has remained fixed and dilated (Fig 2A). On examination of her pupils, there was no right direct or consensual response to light or constriction to accommodation. There was also no reaction to either 0.125% or 4% pilocarpine drops. The left pupil was normal (Fig 2B). Iris

Figure 1 Case 1. Fluorescein angiography shows delayed filling of the iris capillary plexus with large areas of non-perfusion on the right (A). The left iris is normal (B).

Figure 2 Case 2. Fixed and dilated right pupil (A). The left pupil is normal (B).

Letters

Urrtes-Zavalía syndrome following trabeculectomy

Editor,—A fixed and dilated pupil is an uncommon postoperative complication first described by Urrtés-Zavalía following penetrating keratoplasty for keratoconus.1 We report the same problem occurring in two patients after uncomplicated trabeculectomy. To the best of our knowledge, such cases have not been previously described in the literature.

CASEx

CASE 1

A 38 year old woman with bilateral advanced glaucoma was referred for further management of her condition. Her ophthalmic history included surgery to her left squint as a child and left amblyopia. She was otherwise fit and well and took no systemic medication.

On examination her best corrected visual acuities were 6/6 in the right eye and 6/6 in the left. Her anterior segments were normal and her IOPs were 40 mm Hg in the right eye and 15 mm Hg in the left. Initial medical treatment failed to control her IOP and a right trabeculectomy was carried out 2 months after presentation. Since the operation her right IOP has been controlled but her right pupil has remained fixed and dilated (Fig 2A). On examination of her pupils, there was no right direct or consensual response to light or constriction to accommodation. There was also no reaction to either 0.125% or 4% pilocarpine drops. The left pupil was normal (Fig 2B).

Case 2

A 60 year old Turkish woman was referred with a high IOP in her right eye. She had no ophthalmic history of note. Her medical history was unremarkable and she took no medication.

On examination her best corrected visual acuities were 6/9 in the right eye and 6/6 in the left. Her anterior segments were normal and her IOPs were 40 mm Hg in the right eye and 15 mm Hg in the left. Initial medical treatment failed to control her IOP and a right trabeculectomy was carried out 2 months after presentation. Since the operation her right IOP has been controlled but her right pupil has remained fixed and dilated (Fig 2A). On examination of her pupils, there was no right direct or consensual response to light or constriction to accommodation. There was also no reaction to either 0.125% or 4% pilocarpine drops. The left pupil was normal (Fig 2B).

REFERENCES


COMMENT
To our knowledge these are the first cases of Urrets-Zavalia syndrome to be reported after trabeculectomy. The clinical features of this syndrome following penetrating keratoplasty for various conditions are well established but the pathophysiological mechanisms responsible for the mydriasis remain uncertain. Iris ischaemia secondary to postoperative rise in intraocular pressure has been suggested as the likely aetiology with possible immunological, neurological, and structural iris changes playing a role. We have discounted other possible causes of an internal ophthalmoplegia in our cases by ruling out Adie’s pupil as there was no response to accommodation or to 0.125% pilocarpine. There was also no history of mydriatic use preoperatively or postoperatively and the pupil did not react to 4% pilocarpine. In addition, both patients had full extraocular movements with no ptosis and no other associated neurological signs suggestive of a third nerve palsy. There was no preoperative use of viscoelastic substances and both patients had minimal inflammation postoperatively. The angiography findings confirm the iris ischaemia as the most probable cause of the unilateral dilated pupil. Peripheral iridectomies performed as part of the trabeculectomy did not prevent this syndrome as is believed by some authors. It is interesting to note that the syndrome occurred unilaterally in case 1 despite bilateral surgery. A similar finding is the syndrome occurred unilaterally in case 1 owing to her darkly pigmented irides.

The clinical features of this syndrome following penetrating keratoplasty appear to have occurred because of a local capillary disturbance, possibly due to the Valsalva manoeuvre, rather than to other systemic disturbances such as raised intracranial pressure as suggested in previous studies.

Mountaineering is becoming increasingly popular and the commercialisation of trekking regions with good air and road links has created fast transit times between high altitudes and the office ophthalmologist. Here we document a case of altitude retinopathy in a fit normotensive subject with fluorescein angiography performed within 5 days of descent from altitude. The retinal haemorrhages appear to have occurred because of a local capillary disturbance, possibly due to the disturbance of an ocular blood flow when the subject was at altitude. The fluorescein angiography performed within 5 days of descent from altitude revealed widespread flame-shaped intraretinal haemorrhages radiating from the optic disc (Fig 1) and one preretinal haemorrhage (Fig 1A). Venous filling pressure was normal on digital testing. There were no vitreal haemorrhages, disc oedema, cotton wool spots, or macular oedema. Fluorescein angiography showed masking defects corresponding to the haemorrhages, but no delay in filling of retinal veins or late disc leakage and no areas of focal leakage. Haematological investigations were normal: haemoglobin 16.6 g/dl, white cell count 6.0 × 10⁹/l, platelets 169 × 10⁹/l, international normalised ratio 1.0, and erythrocyte sedimentation rate 1 mm in the first hour.

Two weeks later vision had returned to normal and retinal haemorrhages were reabsorbing spontaneously without further complications (Fig 1C, D). All haemorrhages had disappeared at final review 2 months after initial presentation.

COMMENT
Altitude retinopathy was first described 30 years ago in a study of 1925 Indian soldiers overcome with mountain sickness in the Himalayas. Many of these soldiers also had severe pulmonary and cerebral oedema and in subsequent reports it has always been difficult to isolate altitude retinopathy as a primary entity, since papilloedema, hyperviscosity, and other altitude related systemic changes can lead to the development of retinal haemorrhages and disc swelling through secondary mechanisms that also operate at sea level.

Venous filling pressure was normal and fluorescein angiography in this case report showed no delay in venous filling or evidence of leakage at the optic disc. This suggests that the observed haemorrhages are not a consequence of obstruction of venous outflow and more likely represent a primary retinal disturbance. A fluorescein angiogram of altitude retinopathy has been described only once before. In that study there was similarly no disc leakage, but the patient had documented hyperviscosity secondary to chronic hypoxia and required haemodilution. It is therefore unclear to what extent hyperviscosity rather

Fluorescein angiography in altitude retinopathy

EDITOR,—High altitude retinopathy is a condition characterised by asymptomatic retinal haemorrhages that occurs in climbers at above 3000 metres. In some cases disc oedema and cotton wool spots have been described, but in retrospect many of these cases may simply be a description of retinal changes occurring secondary to cerebral pathology or haematological changes related to altitude exposure. Little is known of altitude retinopathy because of the paucity of studies and difficulty in obtaining high quality fundal photographs and fluorescein angiography in the hostile high altitude environment.

Mountaineering is becoming increasingly popular and the commercialisation of trekking regions with good air and road links has created fast transit times between high altitudes and the office ophthalmologist. Here we document a case of altitude retinopathy in a fit normotensive subject with fluorescein angiography performed within 5 days of descent from altitude. The retinal haemorrhages appear to have occurred because of a local capillary disturbance, possibly due to the Valsalva manoeuvre, rather than to other systemic disturbances such as raised intracranial pressure as suggested in previous studies.

CASE REPORT
A 39-year-old man noticed slight blurring of vision while climbing at 25 000 feet (7500 m) on Mount Everest. On advice of the expedition medical officer, he descended almost immediately and within 5 days was reviewed at the Royal Berkshire Hospital in Reading. He was otherwise well and, apart from a mild headache, had experienced no symptoms of mountain sickness. Visual acuity was 6/5 in each eye although he still complained of “fogging areas” in his mid-peripheral vision. Anterior segments and intraocular pressures were normal, but both fundi showed widespread flame-shaped intraretinal haemorrhages radiating from the optic disc (Fig 1) and one pre-retinal haemorrhage (Fig 1A). Venous filling pressure was normal on digital testing. There were no vitreal haemorrhages, disc oedema, cotton wool spots, or macular oedema. Fluorescein angiography showed masking defects corresponding to the haemorrhages, but no delay in filling of retinal veins or late disc leakage and no areas of focal leakage. Haematological investigations were normal: haemoglobin 16.6 g/dl, white cell count 6.0 × 10⁹/l, platelets 169 × 10⁹/l, international normalised ratio 1.0, and erythrocyte sedimentation rate 1 mm in the first hour.

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Figure 1 Fundal appearances of altitude retinopathy at presentation (A and B) and at follow up 2 weeks later (C and D).
than altitude alone had contributed to the retinal haemorrhages seen.

Two prospective studies have shown that the incidence of retinal haemorrhage is greater in subjects exercising heavily at altitude, but it is not related to the number of altitude related symptoms. Similar retinal changes are seen after Valsalva manoeuvres at sea level and pathological evidence suggests that haemorrhages at altitude are similar and originate from ruptured capillaries that become grossly dilated in response to chronic hypoxia. This case reports retinal haemorrhages occurring without disc oedema or venous stasis in an otherwise healthy subject exercising at altitude. It seems that the most likely mechanism is that of Valsalva retinopathy.

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Panuveitis as a presenting feature of giant cell arteritis

EDITOR,—It is unusual for bilateral panuveitis to be a presenting feature of giant cell arteritis. We present a patient diagnosed as having giant cell arteritis who had developed panuveitis some months previously for which the arteritis was probably responsible.

CASE REPORT
A 79 year old woman presented with gradual blurring and photophobia of 6 weeks’ duration. There was no significant ocular history. She had had a recent history of weight loss and anorexia for which she underwent endoscopy which showed evidence of giant cell arteritis. A temporal artery biopsy was performed which showed evidence of giant cell arteritis.

COMMENT
Partial or complete visual loss is the most common and the most serious ophthalmic complication of giant cell arteritis. Because