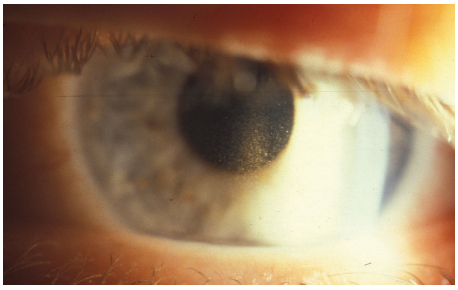
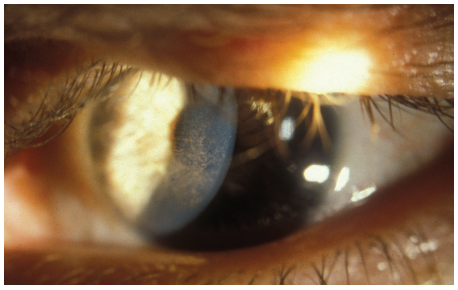
Pigmentary dispersion

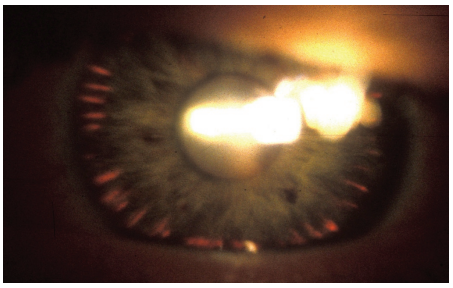
Pigmentary dispersion syndrome, Pigmentary glaucoma, Pigment dispersion syndrome



Pigment dispersion syndrome showing Krukenberg's spindle



Pigment dispersion syndrome



Iris transillumination defects

DESCRIPTION

Pigmentary dispersion is typically seen in young adult, white, myopic males. It can be inherited as an autosomal dominant trait and has been mapped to chromosome 7. It is usually bilateral but can be quite asymmetric. Patients with this condition tend to have deep anterior chambers and large irides with the latter often inserting more posteriorly than usual. If the irides are bowed back in their mid-peripheral aspect, irido-zonular contact can cause the liberation of pigment into the anterior chamber. The dispersion of pigment tends to decrease in middle age, ceasing altogether around the sixth and seventh decades of life. Retinal lattice degeneration is a further complication in about 15 per cent of these eyes.

SYMPTOMS

Most patients are asymptomatic. An increased dispersion of pigment in the anterior segment can be exacerbated by exercise and dilatation of the pupil potentially leading to episodes of ocular pain, blurred vision and coloured haloes around lights.

SIGNS

- Krukenberg's spindle: a vertically orientated band of corneal endothelial pigment dusting is usually seen
- Increased pigmentation in the angle of the anterior chamber revealed on gonioscopy – far more than might be anticipated with ageing. The region of the trabecular meshwork is markedly pigmented and pigment granules may clearly delineate Schwalbe's line
- Sampaoelesi's line – a linear zone of pigmentation anterior to Schwalbe's line
- Radial transillumination defects are seen in the mid-peripheral iris corresponding to zonular contact
- The iris may be dusted with pigment granules, which if excessive can lead to heterochromia
- Pigment may be observed on the zonules, anterior capsule and even the anterior face of the vitreous.

If the patient has pigmentary glaucoma, optic disc cupping may be present together with elevated intraocular pressure and visual field defects.

PREVALENCE

Approximately 2-4 per cent of young adult, white people have pigment dispersion syndrome. Of those, about 25-50 per cent go on to develop pigmentary glaucoma. The condition is rare in Asian and Afro-American populations possibly because their heavily pigmented irides are thicker and less flexible making a bowing back of the iris unlikely.

DIFFERENTIAL DIAGNOSIS

Conditions associated with dispersion of pigment or cells in the aqueous or pigmented keratic precipitates such as pseudoexfoliation syndrome, uveitis, iris chaffing from an inappropriately positioned intraocular lens, corneal guttata, Fuchs' dystrophy, melanoma of the iris and post irradiation.

MANAGEMENT

Additional investigations

It is important to monitor intraocular pressure post pupil dilation in these patients.

Review

Asymptomatic individuals who do not have pigmentary glaucoma should be reviewed every six months.

Topical medication

Control of elevated intraocular pressure may be achieved with any of the medications used for primary open-angle glaucoma. A miotic such as pilocarpine may reduce contact between the iris and the zonules; however, its potential side effects such as brow ache and fluctuations in myopia are less well tolerated by younger patients. Also pilocarpine must be used cautiously in patients predisposed to retinal detachment.

Laser

Laser peripheral iridotomy may be beneficial if the iris is posteriorly bowed. Argon laser trabeculoplasty can be effective but is not always long lasting.

Incisional surgery

Filtration surgery may be required if other management options fail.

The full series of these articles will be available in the book *Posterior Eye Disease and Glaucoma A-Z* by Bruce AS, O'Day J, McKay D and Swann P. £39.99. For further information click on the Bookstore at **opticianonline.net**

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