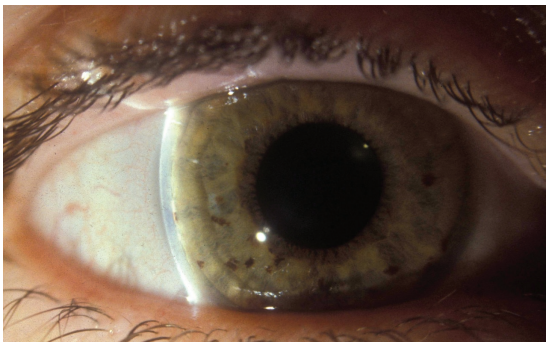
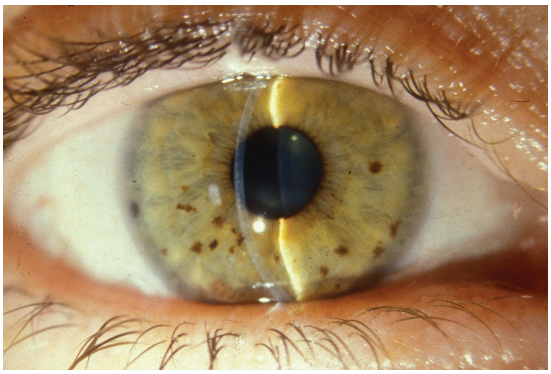
Plateau iris

Plateau iris configuration, Plateau iris syndrome, Iris-induced angle-closure glaucoma, Angle crowding



Plateau iris showing a zero van Herick ratio



Plateau iris in the same patient, showing a reasonably deep central anterior chamber

DESCRIPTION

While angle-closure glaucoma is more commonly due to pupillary block, the plateau iris syndrome (angle crowding) can also cause angle-closure glaucoma. In plateau iris, the anterior chamber angle is narrow despite a normal or near normal anterior chamber depth. The peripheral or final iris roll may be thickened and somewhat convex in character. The iris base may insert more anteriorly than usual at the level of the scleral spur.

With plateau iris, acute angle-closure may occur despite a patent peripheral iridotomy (PI) due to the angle crowding, whereas pupillary block will be alleviated by PI. Should a limited degree of pupil block occur in eyes with plateau iris, an attack of acute closed-angle glaucoma may be precipitated. This is known as a plateau iris configuration. If, on the other hand, the iris crowds the angle and embarrasses aqueous drainage in the absence of pupil block, the condition is known as a plateau iris syndrome.

SYMPTOMS

Patients with plateau iris may be completely asymptomatic. Alternatively, mild symptoms of angle closure such as headache, a slight blurring of vision and rainbow haloes around lights may be excited by scotopic environmental surroundings that encourage dilatation of the pupil. A full blown attack of angle-closure glaucoma will cause a deep throbbing ache, poor vision and potentially nausea and vomiting.

SIGNS

Typically patients with plateau iris will have a very narrow van Herick ratio and a near normal anterior chamber depth. Gonioscopy reveals an anterior iris that is apposed to angle structures. Ultrasound biomicroscopy is helpful in demonstrating the iris root/trabecular relationship.

PREVALENCE

A plateau iris configuration is thought to be relatively common.

DIFFERENTIAL DIAGNOSIS

This condition has to be distinguished from angle-closure glaucoma from pupil block, and also a shallowing of the anterior chamber typically following surgery for glaucoma or cataract; Malignant glaucoma (aqueous misdirection syndrome).

MANAGEMENT

Advice

The pupils of patients with plateau iris should be dilated with the greatest caution and then only using a weak anticholinergic such as 0.5 per cent tropicamide or a sympathomimetic such as 2.5 per cent phenylephrine. The patient should be warned of the likelihood of an acute pressure rise before dilating drops are instilled and advised to report at once any symptoms indicating an acute attack following dilation. Intraocular pressure should be regularly monitored until the pupil returns to normal.

Topical medication

If the patient presents with acute angle-closure glaucoma the situation is managed medically (see Acute angle-closure glaucoma).

Laser surgery

Once the attack has been broken a peripheral iridotomy is undertaken. If pupil dilatation subsequent to this procedure causes intraocular pressure to rise, then a plateau iris syndrome exists and weak pilocarpine may be prescribed or a laser iridoplasty considered.

A peripheral iridotomy may also be appropriate for the patient with plateau iris who has never had an angle closure attack.

Review

Careful and frequent follow up is mandatory.

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**

- **Adrian Bruce** is a Chief Optometrist at the Victorian College of Optometry and a Senior Fellow, Department of Optometry and Vision Sciences, The University of Melbourne.
- **Justin O'Day** is an Associate Professor in the Department of Ophthalmology, The University of Melbourne and Head Of Neuro-Ophthalmology Clinic, Royal Victorian Eye and Ear Hospital.
- **Daniel McKay** is a Medical Officer at the Royal Victorian Eye & Ear Hospital.
- **Peter Swann** is Associate Professor in the School of Optometry, Queensland University of Technology.