
Our vision: Is for Australians to be free of glaucoma blindness

Primary Angle-Closure and Primary Angle-Closure Glaucoma

Primary angle closure (PAC) is defined as appositional or synechial closure of the anterior chamber angle which can lead to aqueous outflow obstruction and raised eye pressure, in the absence of glaucomatous optic neuropathy.

PAC is generally bilateral. Optic nerve damage resulting from PAC is described as primary angle closure glaucoma (PACG).

Causes

Primary Angle Closure is the result of an inherited narrowness of the drainage angle of the eye. The angle is located between the iris (the coloured part of the eye) and the trabecular meshwork through which aqueous fluid must drain to leave the eye. As the lens of the eye grows throughout life, the tendency to drain-narrowing becomes more marked with advancing years.

Primary angle closure may develop after an acute episode of angle closure with persistent adhesions that block the trabecular meshwork and aqueous drainage (peripheral anterior synechiae). More commonly it develops following gradual asymptomatic closure of the angle.

Who is at risk?

It is more common in long-sighted eyes, older people, women, and in Asian populations.

Symptoms

Typically PAC and PACG develop chronically without symptoms, however an acute rise in IOP Acute angle closure (AAC) crisis (unilateral in 90% of cases)

can present as a clinical emergency (see separate fact sheet titled Acute Angle Closure).

Detection

An optometrist will often make the diagnosis based on a routine examination in a patient without symptoms

Treatment

Intraocular pressure control in patients with primary angle closure depends on the amount of trabecular meshwork damage and extent of angle closure.

A peripheral iridotomy is performed with a laser in eyes with narrow angles to prevent further closure and blockage of the trabecular meshwork. A laser iridoplasty may need to be performed if the angle remains narrow. Lens extraction can be utilised to eliminate the narrow angle as well.

If the drain has been damaged or is blocked, it may not be able to work efficiently. If this is the case, medical treatment in the form of drops or surgery may be required. Drops are used to reduce the intraocular pressure. Trabeculectomy surgery may rarely be needed in cases where the extent of angle closure is extensive and intraocular pressure control is difficult even with drops.

Ongoing Management

The eyes must be checked regularly and indefinitely in all cases of primary angle closure and primary angle closure glaucoma.

Additional information

Secondary angle closure as opposed to primary angle closure is used to describe raised eye pressure due to narrow angles caused by certain types of medication and following eye surgery.

