

3.6 Chronic Angle Closure Glaucoma

CHRONIC ANGLE CLOSURE DEFINITION

Glaucoma caused by permanent synechial closure of the anterior chamber (AC) angle

From various underlying mechanisms that lead to:

1. Persistent high intraocular pressure (IOP)
2. Optic nerve head (ONH) damage
3. Visual field defect and blindness, if left untreated

The process of angle closure is slow and progressive

There is development of permanent synechial closure
Demonstrated by indentation/dynamic gonioscopy

DIAGNOSIS: BASED ON CLINICAL FINDINGS

Cornea

Corneal endothelial pigments
From previous acute episodes

AC

Normal or slightly shallow central depth.
Shallow peripheral AC

Pupil

Normal or
Synechia or
Atrophic changes

Iris

Normal looking, or iris atrophy from previous acute or intermittent attacks.
Iris bowing if there is posterior synechia. Presence of iris bombe in pupil block mechanism.

Lens

Anteriorly positioned
Anterior lens capsule opacity (glaukomflecken) from previous acute attack(s)
Could be clear lens, or
May have other lenticular opacities

IOP at presentation Normal or elevated

Gonioscopy

Synechial angle closure
There may be evidence of peripheral anterior synechiae (PAS)
In the absence of synechia, there may be occludability of the angle with or without presence of pigment clumps, especially blotchy pigments. Iris configuration is often convex.

MANAGEMENT

Counsel patient on the disease
Treatment plan
And follow-up

MANAGEMENT DEPENDS ON

1. The underlying cause
2. Level of IOP
3. Extent of permanent angle closure
4. Stage of glaucomatous ONH damage

Medical treatment

Indications:

1. For eye with IOP <30 mm Hg and with early to moderate glaucomatous ONH damage
2. To lower IOP prior to surgery
3. To further lower or control IOP after laser or surgical procedure

Medications:

1. Aqueous suppressant are the preferred drugs
2. Prostaglandin analogues are also effective
3. Hyperosmotic agents to lower very high IOP temporarily

Follow-up

Stable glaucoma i.e.
Target IOP achieved
Stable ONH and
Stable visual field
Review every 3 - 6 months depending on the stage of glaucoma, risk factors for progression & distance of where patient lives

Laser therapy

Iridotomy

The primary treatment for angle closure disease is laser iridotomy.
It may be avoided only when the mechanism of angle closure is lens induced and the patient is planned for **cataract extraction**.

The **anti-glaucoma medications** are decided on the basis of the extent and appearance of non-synechial portion of the angle

Peripheral iridoplasty

to eliminate appositional angle closure from plateau iris configuration or syndrome

Cyclophotocoagulation or

Cryotherapy

for intractable eye with poor visual potential or blind painful eye

Surgery

Lens extraction to eliminate the anteriorly pushing mass effect of the lens.
with **goniosynechialysis** to detach synechial peripheral iris from the angle.
Lens has a considerable role in angle closure disease and one can avoid trabeculectomy by cataract or clear lens extraction.
and continuing 1 or 2 anti-glaucoma medications, especially when the synechial portion of the angle is not more than 180 degrees.
Avoid early post-op IOP spike. This strategy may be followed even in advanced glaucoma to avoid the possible complications of trabeculectomy. **GDD** - often a secondary procedure so that at least one trabeculectomy is performed prior to GDD in angle closure disease.