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**

<table>
<thead>
<tr>
<th><strong>Cornea</strong></th>
<th><strong>AC</strong></th>
<th><strong>Pupil</strong></th>
<th><strong>Iris</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Corneal endothelial pigments</td>
<td>Normal or slightly shallow central depth. Shallow peripheral AC</td>
<td>Normal or Synechia or Atrophic changes</td>
<td>Normal looking, or iris atrophy from previous acute or intermittent attacks. Iris bowing if there is posterior synchia. Presence of iris bombe in pupil block mechanism.</td>
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**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 synchiae (PAS)
In the absence of synchia, 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**

**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.

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