3.5 Acute Primary Angle Closure Glaucoma (PACG)

STAGE 1: ARRIVAL <30 MINUTES

1. Take history and examine the patient noting any precipitating factors
2. Visual acuity check, take IOP
3. Exclude other causes of high IOP - e.g. rubeosis irides, secondary lens-induced glaucoma
4. Lie patient in the supine position
5. Get IV access, take bloods for baseline U&Es
6. Give IV Diamox 500mg stat
7. Give oral Diamox 250mg as well, if not vomiting. Increase the dose if IOP remains high
8. Apply gutt. Alphagan/Iopidine, gutt. Timolo 0.5% stat to the affected eye
9. Apply gutt. Prednisolone or gutt. Dexamethasone every 15 minutes in the 1st hour, then 6-hourly thereafter
10. Offer analgesia and anti-emetics PRN

STAGE 2: 60-120 MINUTES

1. After 1 hour, re-check IOP, anterior segment and perform gonioscopy, if cornea is clear
2. If possible, apply pressure with direct gonio lens (Zeiss 4-mirror, Posner, Sussman lens)
3. If reversible, then it is appositional angle closure; if there is synechia, then it is often non-reversible
4. Then return patient to the supine position
5. If appositional, apply corneal indentation as 3 -4 cycles, lasting 30 seconds each, at the centre or inferior cornea, while patient is in supine position

IF IOP<50mmHg
Apply gutt. Pilocarpine 2% 3x in 1 hour

IF IOP>50mmHg
Admit
50% glycerol 1g/kg orally, OR
IV Mannitol 20% 1-2g/kg
over 45 minutes
if vomiting, Limit fluid intake

Check the BP and do a cardiac exam before giving mannitol. Mannitol can precipitate undetected cardiac disease

STAGE 3: AFTER 2 HOURS. | **RECHECK IOP, PUPIL, ANTERIOR SEGMENT**

If IOP<30mmHg
Attack resolving
Pupil miosed
Patient well and compliant

1. Do Laser peripheral iridotomy (LPI) or surgical peripheral iridectomy (PI) to the affected eye;

There is a high risk of a second angle closure attack in the affected eye if PI is not done promptly

2. and prophylactic LPI to the unaffected eye if angles are also closed in that eye.

There could also be a risk of the second eye developing an acute angle closure attack within a week

3. Consider early cataract extraction
4. Consider clear lens extraction even if no cataract

If IOP = 30-50mmHg
Attack not yet resolved

1. Admit and keep in supine position
2. Continue gutt. Pilocarpine 2% 3x over 1 hour
3. Give another dose of oral Diamox 250mg
4. Add gutt. Azopt 8-hourly
5. Review again in 2 hours
6. If not better, apply algorithm for IOP>50mmHg

If IOP = 50+ mmHg
Attack not resolved

1. Keep on admission, supine position
2. IV Mannitol 20% 1-2g/kg over 45 minutes
3. Review 2 hours later
4. If IOP not <50mmHg,
arrange for an urgent LPI or surgical PI

while continuing treatment:
Diamox 250 mg 6-hourly PO
gutt. Timolol 0.5% bd
gutt. Alphagan 8-hourly
gutt. Azopt 8-hourly
gutt. Dexamethasone 6-hourly
gutt Pilocarpine 2% 6-hourly

Prostaglandin analogues must not be used in these patients during the attack mainly because they can increase inflammation