Glaucoma, acute: Treatment

Treatment of angle-closure involves prevention or reversal of angle-closure, as well as control of intraocular pressure.

Rapid overview: Emergent management of severe acute angle closure glaucoma

Clinical presentation
Rate of onset and degree of intraocular pressure (IOP) increase determine symptoms
With rapid increase in IOP, patients can experience sudden onset of eye pain, headache, blurry vision, halos around lights, and nausea and/or vomiting; some symptoms may not be present
Episode is often triggered by sudden pupillary dilation from darkness (eg, lights go down in theater), sympathetic arousal (eg, emotional upset), medications
Predisposing medications include: Over-the-counter decongestants, motion sickness medications, adrenergic agents, antipsychotics, antidepressants, and anticholinergics
Examination
Signs associated with rapid increase in IOP include: Reduced visual acuity, red/injected conjunctiva, mid-dilated pupil (4 to 6 mm) that reacts poorly to light or is fixed, corneal edema or cloudiness
Measure IOP: Generally between 40 to 70 mmHg (normal is approximately 8 to 20 mmHg)
Usually one eye is affected at a time, but both eyes must be carefully examined
Management
Obtain emergent ophthalmology consultation for immediate evaluation and to discuss appropriate medical treatment
Place the patient supine
For patients with significant decline in vision (eg, with affected eye, patient cannot read text they would normally be able to, or cannot count fingers), provide immediate treatment to reduce IOP: (Consider possible contraindications to medications [eg, beta blocker contraindicated with severe bronchospasm, 2° or 3° AV block, uncompensated heart failure])
Give timolol 0.5 percent, 1 drop to the affected eye, wait one minute, then
Give apraclonidine 1 percent, 1 drop to the affected eye, wait one minute, then
Give pilocarpine 2 percent, 1 drop to the affected eye every 15 minutes for 2 total doses; wait one minute after first dose, then
Give prednisolone acetate 1 percent, 1 drop to the affected eye every 15 minutes for 4 total doses
Give acetazolamide 500 mg IV (may give by mouth if IV medication not available)
If IOP remains significantly elevated (≥40 mmHg) 30 minutes after giving this regimen and an ophthalmologist is not immediately available to assume care, give mannitol 1 to 2 g/kg IV
For all patients, relieve associated symptoms with analgesics (eg, morphine, titrate to effect) and antiemetics (eg, ondansetron, initial dose 8 mg IV)

Surgical approach: **Laser peripheral iridotomy**, goniosynechialysis may be performed in the operating room at some point after a peripheral iridotomy is in place. Cataract surgery (phacoemulsification) with an intraocular lens implant also may resolve the issue of acute or chronic primary angle-closure, once diagnosed, by removing the lens that may be crowding the angle

Question:

You are taking care of a patient with suspected acute angle glaucoma. The ophthalmologist is expected to arrive in two hours. Your next step should include:

a. Start timolol, apraclonidine and pilocarpine one drop to affected eye one minute apart each
b. Refer the patient to another hospital
c. Elevate the head of the bed
d. Start dexmedetomidine drip

Answer: A See table in the keyword