

Setting Target IOP in Glaucoma

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Glaucoma is a multi factorial optic neuropathy in which there is a characteristic acquired loss of retinal ganglion cells at levels beyond normal age related baseline and corresponding atrophy of optic nerve head.^[1] Glaucomatous is associated with progressive visual field loss which can lead to total irreversible blindness if the disease is not diagnosed early and treated properly.^[2] Various major studies on Glaucoma have concluded that lowering of IOP delays the progression of Glaucomatous damage^[3,4,5,6]. This knowledge has given rise to the concept of target IOP in management of Glaucoma patients.

Target IOP:

It is the highest IOP level expected to prevent further Glaucomatous damage or that can slow progression to a minimum. It has to be individualized in every patient and in each eye of the same patient. Also it is dynamic, means we have to redefine target IOP if Glaucoma progresses despite an apparently low IOP. Baseline IOP and diurnal variation in IOP should be recorded before setting target IOP. Correction for corneal thickness should be done for Goldman applanation tonometry.

Target IOP Depends On:

- Pretreatment IOP or Baseline IOP
 - IOP at which damage has occurred e.g. if baseline IOP was 20 mm Hg, then target has to be near early teens like 12 mm hg. If the baseline IOP was in 30s, then target can be around 18. Though it also depends on type of disc & field damage.
- Disc and VF changes
 - Mild Glaucoma i.e. early disc damage, isolated VF defect outside central 10° of VF, MD on VF ≤ 6 db, the target IOP should be ~ 18 mm hg.
 - Moderate Glaucoma – arcuate VFD not encroaching on central VF, MD -6 to -12 dB, target IOP should be ~ 15 mm Hg.
 - Advanced Glaucoma – CDR 0.8 to 0.9, VFD on Central VF threatening fixation, MD ≥ -12 dB, target IOP should be ≤ 12 mm Hg.
- Normal tension glaucoma--decrease by 30%.
- Ocular HTN & Glaucoma suspects - < 20 mm Hg.
- Age and life expectancy– more the life expectancy lower the IOP
- Severity of disease at presentation– more severe the disease at presentation, lower the IOP
- Presence of other risk factors (Target IOP to be lowered):
 - Family History

- Exfoliation Syndrome
 - Thin Cornea is an independent risk factor for conversion of ocular hyper tension into POAG.
 - Disc Hemorrhage
 - Diabetes Mellitus
 - Migraine
 - Hypotension - it decreases ocular perfusion pressure.
 - Patient on Anti Hypertensives - antihypertensive drugs especially beta blockers may cause fall in BP at night at thus a corresponding fall in ocular perfusion pressure.
- Quality of Life
 - Compliance
 - Cost Evaluation

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