

Glaucoma lecture part 2

by Dr.Zainab kadhum

Fifth grade

Glaucoma drugs

Investigation

Optic nerve head

neovascular glaucoma

Primary congenital glaucoma

Most cases of PCG are sporadic. 10% have AR inheritance. Impaired aqueous outflow is caused by maldevelopment of the angle of the eye. Classification: 1-true congenital glaucoma (40%), the IOP rises during pregnancy 2-Infantile glaucoma(55%), manifests in the first three years of life 3-Juvenile glaucoma: the IOP rises after 3 years but before the age of 16 years. Symptoms: epiphora, photophobia, and blepharospasm. Diagnosis: 2/3 of affected patients are boys, both eyes are affected in 2/3 of cases. 1-corneal haze: caused by edema of the stroma and epithelium due to high IOP. 2-Buphthalmos: is a large eye due to stretching because of high IOP before age of 3 years. 3-Breaks in Descemet membrane: show as horizontal curvilinear lines called Haab striae. 4-optic nerve cupping. Management: evaluation is done under general anesthesia. We examine the IOP, optic disc, and corneal diameter (corneal diameter > 11 mm prior to age of 1 year or > 13 mm at any age is suspicious of PCG). surgical procedures (goniotomy, trabeculotomy, trabeculectomy).

Glaucoma drugs

There are several groups of drugs used in glaucoma 1-beta blockers: they decrease aqueous production e.g. timolol drop 0.5% 2-carbonic anhydrase inhibitors: they decrease aqueous production e.g. dorzolamide drops 3-prostaglandins analogues: they decrease the IOP by increasing uveoscleral outflow e.g. latanoprost drops 4-adrenergic agonists: decrease aqueous production e.g. brimonidine drops 5-cholinergic stimulants: they increase aqueous outflow through the trabecular meshwork and also cause pupil miosis e.g. pilocarpine drops 6-hyperosmotic agents: they decrease vitreous volume and decrease aqueous humor production e.g. mannitol I.V infusion. Laser in glaucoma: there are 2 types of laser 1-laser trabeculoplasty 2-Nd-Yag laser iridotomy

Investigation of glaucoma

There are several groups of drugs used in glaucoma 1-beta blockers: they decrease aqueous production e.g. timolol drop 0.5% 2-carbonic anhydrase inhibitors: they decrease aqueous production e.g. dorzolamide drops 3-prostaglandins analogues: they decrease the IOP by increasing uveoscleral outflow e.g. latanoprost drops 4-adrenergic agonists: decrease aqueous production e.g. brimonidine drops 5-cholinergic stimulants: they increase aqueous outflow through the trabecular meshwork and also cause pupil miosis e.g. pilocarpine drops 6-hyperosmotic agents: they decrease vitreous volume and decrease aqueous humor production e.g. mannitol I.V infusion. Laser in glaucoma: there are 2 types of laser 1-laser trabeculoplasty 2-Nd-Yag laser iridotomy

The optic nerve head

It is the intraocular portion of the optic nerve, usually we call it: the optic disc on examination of the disc we should comment on the 3 Cs (C C C) 1-cup 2-color 3-contour The normal cup-to-disc ratio is less than 0.4

Neovascular glaucoma

where the angle of the eye is closed by “new blood vessels,” hence the name “neovascular.”

Neovascular glaucoma typically develops in eyes in which there is severe retinal ischemia as in retinal vein blockage or severe diabetic eye disease. There are other causes too, including chronic retinal detachment, tumors, and ocular ischemic syndrome, although these are all much rarer causes. Symptoms The symptoms of neovascular glaucoma can include pain, redness, and decreased vision, although in early stages of the disease it is possible not to have any symptoms.

Treatment

Treatment of neovascular glaucoma includes two parts: Treat the underlying cause of neovascular glaucoma, that is, the ischemic retina; and Lower the eye pressure, whether through medications, laser, surgery, or a combination of these types of treatments. If glaucoma drops fail to bring the pressure down adequately, surgery is often the next step. In neovascular glaucoma, there are many considerations for what surgery to choose, including the potential of recoverable vision. Tube shunt surgery is the usual surgery recommended for patients, as it can bring down the pressure immediately and has higher rates of success than other filtering surgeries, such as trabeculectomy. If vision is very poor, some ophthalmologists may recommend a less invasive procedure such as a type of laser that destroys the ciliary body, the part of the eye that produces fluid. retinal laser (pan-retinal photocoagulation), which decreases the retina’s production of VEGF, and injections of anti-VEGF medications into the eye, which will cause the abnormal blood vessels to start regressing or disappearing.