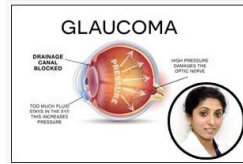


## Glaucoma -The sneak thief of vision!



Glaucoma is a group of conditions in the eye that cause damage to the optic nerve (nerve connecting the eye to the brain) leading to permanent vision loss and blindness if untreated. This happens due to improper drainage of the fluid inside the eye (aqueous humour) to the external channels, leading to an increase in the intraocular pressure (eye pressure). This high pressure damages the optic nerve. When detected early and treated appropriately, this disease progression can be

slowed or stopped (majority of the times) thereby preventing blindness.

### Magnitude of the problem

Glaucoma is the second leading cause of irreversible blindness. About 11 million people worldwide are affected and of those 1 million who are blind due to glaucoma are unaware of the disease and are not undergoing any treatment. In India, almost every 8th person aged 40 years or older suffers from glaucoma or is at risk of developing glaucoma. There are several types of glaucoma. Majority of glaucomas are primary- i.e with no detectable cause. Others which occur as a consequence of other eye disorders are called secondary glaucoma like trauma, inflammation, surgery etc.

Increased intraocular(eye) pressure (IOP) is a known risk factor for causation of glaucoma, however, those with normal IOP can also develop glaucoma affecting vision and contrast.

There are two major categories of glaucoma – 1) Open-angle Glaucoma— the angle of the eye (the structure that drains the fluid out of the eye) is open widely, 2) Closed angle Glaucoma— the angle of the eye is closed. Closed-angle glaucoma is more common in India than open-angle glaucoma, that too more common amongst women. Although reasons are not completely understood, women, in general, are noted to have small eyes which is an important factor contributing to the increased risk as high as 2 times compared to open angle glaucoma

Mostly glaucoma affects those after 4th decade of their life, it can also occur in newborn, infants and young children. Some predisposed newborn develops glaucoma from the mother's womb with enlarged eyes and watering called congenital variety, and some develop glaucoma during later stages of their life.

### Who are at risk of developing primary glaucoma? Who needs to be evaluated to pick up or rule out glaucoma?

Each of us is at risk of glaucoma, however, the risk is higher in those with a family history of glaucoma. Certain types of glaucomas affect people with different races or ethnicities, high myopia or short-sightedness and elderly people. Those with a family history are 10 times more at risk of developing glaucoma. Hence everyone in the family i.e. all blood relatives like parents, siblings need to be screened early for diagnosing glaucoma if any.

### Who are at risk of secondary glaucoma?

Every 4th glaucoma patient seen in clinic with secondary glaucoma usually are steroid-induced glaucoma, i.e IOP increased due to use of steroids from over the counter for red eyes/ allergy in the eye or for other non-eye related ailments, which is totally preventable.

Another preventable entity is due to trauma around the eyes caused especially with a ball, road accidents, cracker injuries seen during Diwali festivities, etc. Sometimes trivial injury with hand/ fist can also cause changes in internal structures of the eye predisposing the eye in developing glaucoma not just immediately but at a later stage as well. Any intraocular surgery predisposes the eye to glaucoma, more so in eyes with the corneal transplant, retinal surgeries and post cataract surgery eyes.

### How to detect glaucoma?

Screening by doing a comprehensive eye examination is the best possible way to detect glaucoma especially in those with family history and with risk factors. Individuals aged 40 years and above, those with a history of diabetes/ high blood pressure need a regular comprehensive eye check-up with a glaucoma specialist which would help to rule out or diagnose glaucoma at an early stage. Early detection and treatment are the only way to prevent progression and blindness due to glaucoma. The comprehensive eye testing includes vision testing, IOP measurement, Gonioscopy (procedure to check the drainage angle of the eye), dilated eye examination for assessing the optic nerve.

Glaucoma affects the side vision (peripheral field of vision) first, and as it progresses the central vision is affected at the end stage. This misleads the patients to believe that, "ALL IS WELL" in the eye especially in the early stages. Hence a perimetry (which maps the field of vision) is warranted to check if the side vision is affected by glaucoma. Even if the visual field is normal in some situations, there could still be glaucoma which may manifest as a field defect at a later point in time. Hence, this test needs to be repeated at frequent intervals to know the severity and progression of glaucoma.

Antiglaucoma medications aim at lowering the increased IOP thereby controlling the loss of vision and preventing blindness. Surgical treatments are also available which are mostly recommended if it is unable to control glaucoma with medications. Even with treatment, glaucoma may progress, which may warrant a change in treatment. Hence, regular eye exams or IOP testing and visual field testing are mandated with strict compliance to treatment and follow up. These measures can prevent glaucoma progression.

Avoid over the counter drugs especially steroids in children, those with family history and risk factors.

Protect the eyes from injury especially those wearing high minus power glasses, avoid contact sports like wrestling. Any person with a recent or old history of trauma needs to get his/ her eye examined for risk of glaucoma.

Any child having big eyes with intolerance to light and noticeably reduced vision by parents need a checkup with glaucoma specialist to detect glaucoma.

Anybody with red eyes, pain, watering and seeing rainbow colours while looking at bright light, headache, nausea needs to be examined for glaucoma especially the closed angle variety.

With the increasing lifespan and growing epidemic of glaucoma associated with other age-related diseases, timely diagnosis, and appropriate management are essential for the prevention of blindness.

Owing to the silent nature of the disease with no symptoms, patients are usually unaware and its progression without treatment can cause irreversible blindness. Hence early detection and treatment help retain the sight. Although the disease is not curable, it can be under control with treatment either medically/ surgically.