

PHARMA HEALTH CLUB

SAFE USE OF MEDICINES FOR BETTER HEALTH

1ST April, 2017

Page 01

What is
Glaucoma

Page 02

Diagnosis

Page 03

Treatment

Page 04

Reference



GLAUCOMA

BIG - BEAT INVISIBLE GLAUCOMA!!!

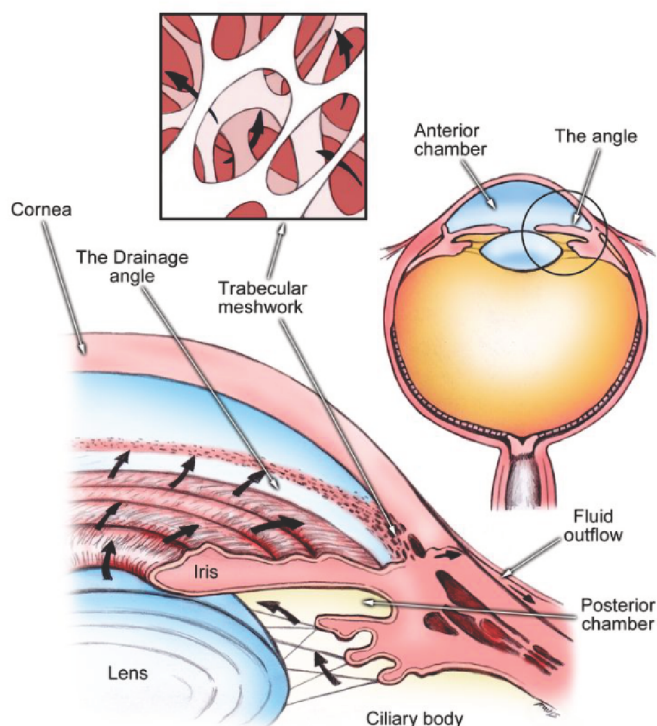
What is Glaucoma?

Glaucoma is the group of ocular disorders, which causes damage to eye's optic nerve and initially characterized by loss of side vision (peripheral vision) followed by loss of central vision and turns to complete blindness.

It is mainly associated with increased Intra

Ocular Pressure (IOP) then normal (15–20 mmHg). The condition in which IOP raises to much higher is referred as Ocular hypertension.

Main event observed in glaucoma is damage to Optic nerve, which receives light-generated nerve impulses from the retina and transmits them to the brain, where those electrical signals are recognized as vision.



So, loss of functioning of this (Optic) nerve will result into loss of vision.

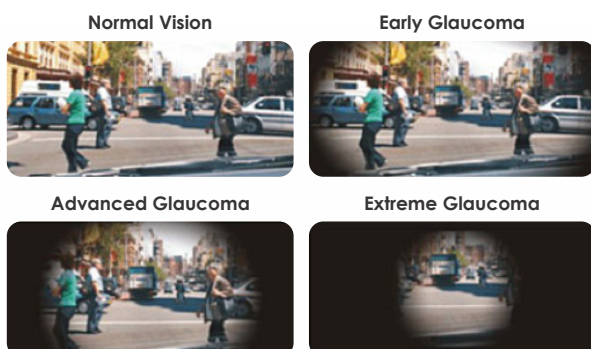
- To spread awareness related to Glaucoma, World Glaucoma Week is celebrated globally. This year it was celebrated during 12th – 18th March. World Glaucoma Week is a joint initiative between the World Glaucoma Association and the World Glaucoma Patient Association and has had a highly successful run for the past 8 years.[1]

● Symptoms:

Generally open angle glaucoma (observed in around 90% patients) is painless and does not have acute attacks. The only signs are gradually progressive visual field loss, and optic nerve changes.

● In Angle closure glaucoma following symptoms are observed:

Seeing halos around lights
Vision loss
Redness in the eye



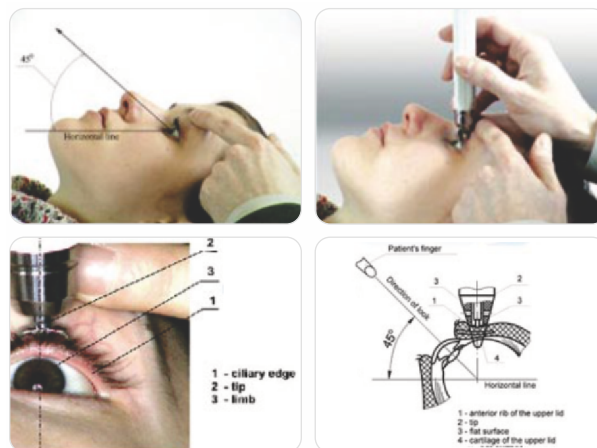
Eye that looks hazy (particularly in infants)
Nausea or vomiting
Pain in the eye
Narrowing of vision (tunnel vision)

● Diagnosis Of Glaucoma

● Tonometry:

This method is used to measure the pressure in eye i.e. Intra-ocular pressure (IOP). The pressure is measured in mmHg.

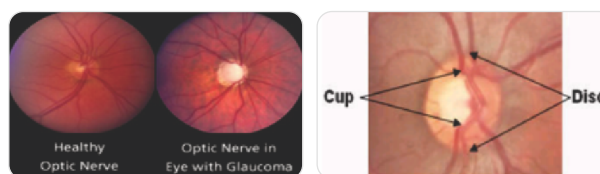
If the pressure is above 30 mmHg then it indicates that patient is suffering from ocular hypertension and due to which may suffer from Glaucoma.



The instrument used to measure IOP is known as tonometer and this technique is known tonometry.

● Ophthalmoscopy:

In this method, Ophthalmologist examines internal structure of eye especially the optic nerve. Deformitis or deranged optic nerve is an indicator of Glaucoma.



● Risk factors of Glaucoma:

- Age: over 40
- Have a family history of glaucoma.
- Have diabetes (due to diabetic retinopathy)
- Take certain steroid medications, such as prednisone(which increases level of some

mucopolysaccharides which can hold aqueous humor i.e. increases aqueous humor in chambers...)

Region: African-American, Irish, Russian, Japanese, Hispanic, Inuit, or Scandinavian descent.

● Treatment

● Surgical approaches to cure glaucoma:

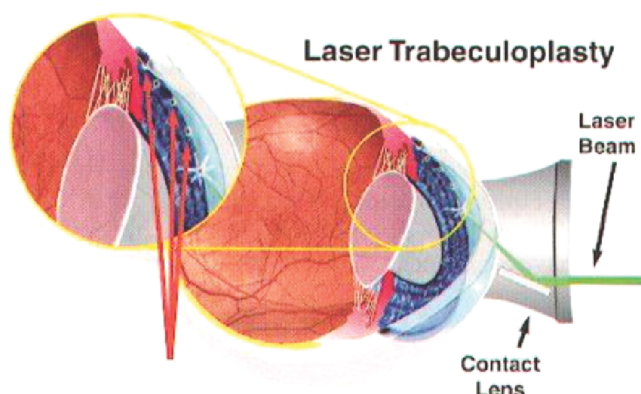
Medical Treatment of Glaucoma

Therapy	Indication	Purpose	Method	Side Effects / Drawbacks
Beta Blockers	1 st line therapy	Reduce IOP	Reduce aqueous humor production	Exacerbate asthma, bradycardia, hypotension
Carbonic Anhydrase Inhibitors	1 st line therapy	Reduce IOP	Reduce aqueous humor production	Headache, ocular discomfort, pruritus, keratitis
Alpha 2 agonists	2 nd line agents	Reduce IOP	Reduce aqueous humor production, epinephrine prevents PAS formation through mydriatic effect	Palpitations, tachycardia, pallor, sweating
Prostaglandins	3 rd line therapy	Reduce IOP	Increase outflow through uveal pathway and ciliary muscle	May worsen inflammation and increase risk of cystoid macular edema in uveitis [11, 12]
Hyperosmotic agents	3 rd line therapy	Reduce IOP	Dehydrate the vitreous and reduce vitreous volume	Risk of intravascular fluid overload in patients with suppressed CV function

● Argon Laser trabeculoplasty:

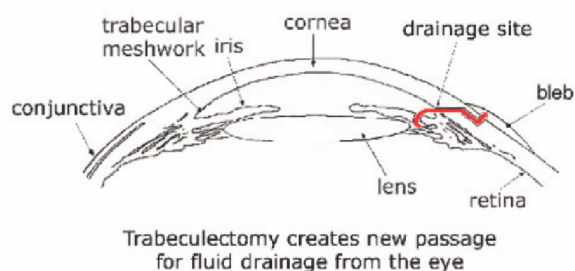
To increase outflow of internal eye fluid, an ophthalmologist performs laser trabeculoplasty with a laser that creates tiny holes in the filtration angle of the eye, where the cornea and iris meet.

A newer procedure, selective laser trabeculoplasty, creates minimal heat damage to adjacent tissue, which generally means the procedure can be repeated safely.



● Trabeculectomy:

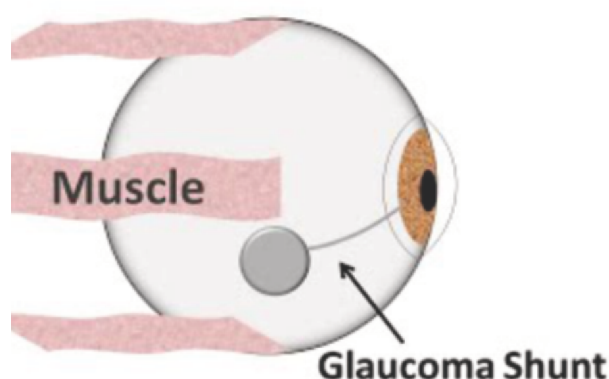
A trabeculectomy creates a "controlled" leak of fluid (aqueous humor) from the eye, which percolates under the conjunctiva. A small conjunctival "bleb" (bubble) appears at the junction of the cornea and the sclera (limbus) where this surgically produced valve is made.



● Glaucoma tube shunt implantation:

Glaucoma shunts and stents are small devices, surgically inserted into the eye during a trabeculectomy to increase outflow of intraocular fluid and reduce high eye pressure.

The term "glaucoma implants" sometimes is used to describe shunts and stents, but also describes tiny devices implanted in the eye that are designed to provide a sustained release of glaucoma medicine to reduce eye pressure.





References:

- 1) Introduction to World Glaucoma Week. Available on: <http://www.worldglaucoma.org/world-glaucoma-week/> (Accessed on: 07.03.17)
- 2) Symptoms of Glaucoma. Available on: <https://healthandlifestylemagazine.files.wordpress.com/2009/12/wordpress.jpg> (Accessed on: 07.03.17)
- 3) Image of Tonometry. Available on: <http://2nzub4x5d61ra4q12fyu67t.wpengine.netdna-cdn.com/img/4364dal1.jpg> (Accessed on: 07.03.17)
- 4) Image of Cup to disc ratio. Available on: http://www.glaucoma.org/uploads/optic-nerve-comparison_290.jpg & http://www.wikidoc.org/images/d/d8/Glaucoma,optic_nerve.jpg (Accessed on: 07.03.17)
- 5) Medical treatment of glaucoma. Available on: http://eyewiki.org/testwiki/images/1/0/07/Medical_Treatment_of_Glaucoma.jpg (Accessed on: 07.03.17)
- 6) Surgical approaches to cure glaucoma – Argon Laser Trabeculoplasty. Available on: <http://ohioeyecareconsultants.com/wp-content/uploads/2015/05/glaucomasurgery1.jpg> (Accessed on: 07.03.17)
- 7) Hadrill Marilyn, "Glaucoma Surgery". Available on: <http://www.allaboutvision.com/conditions/glaucoma-surgery.htm> (Updated on May 2015; Accessed on: 07/03/2017)
- 8) Surgical approaches to cure glaucoma – Trabeculectomy. Available on: <http://www.glaucomacare.com.au/sites/default/files/field/image/Slide8.jpg> (Accessed on: 07.03.17)
- 9) Surgical approaches to cure glaucoma – Glaucoma Tube shunt implantation. Available on: <http://jirehdesign.com/wp/wp-content/uploads/2013/09/sug0008.jpg> (Accessed on: 07.03.17)

