

Glaucoma Suspect

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lines

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History

- The word glaucoma derives from the Greek word glaukos, which, means a watery or diluted blue.
- Hippocrates mentioned the condition of glaukosis among the infirmities that old people suffer.
- Hippocrates meant by the term a bluish discoloration of the pupil.
- The condition was later called ypochyma and corresponded to a cataract.

History

- In antiquity, it was assumed that glaukosis and hypochyma are identical.
- Later, glaucoma was thought to be a disease of crystalline body or fluid, which changes in its normal color to light blue, hypochyma, was regarded as the exudation of a fluid that later congeals and lies between the iris and the lens.

History

- All glaucomas were considered incurable, while it was believed that some hypochymata could be improved.
- The Arabian physicians interrupted glaucoma as an incurable cataract with desiccation of the lens.
- Only with the invention of the ophthalmoscope was it possible to observe the changes in the optic nerve head associated with glaucoma.

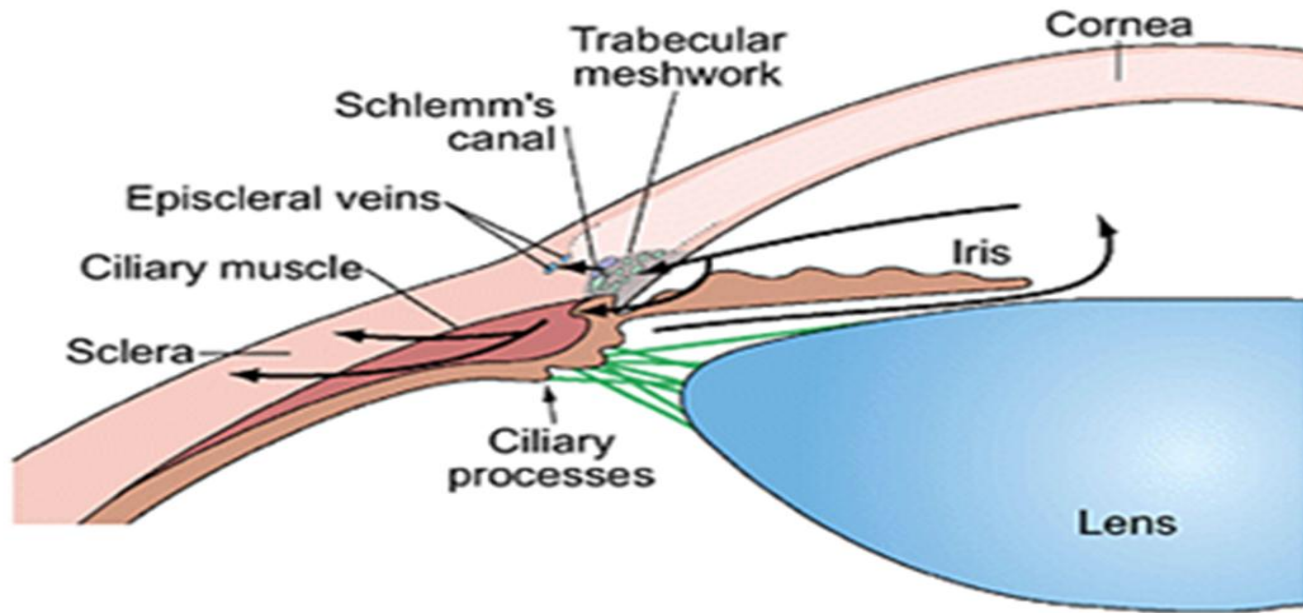
History

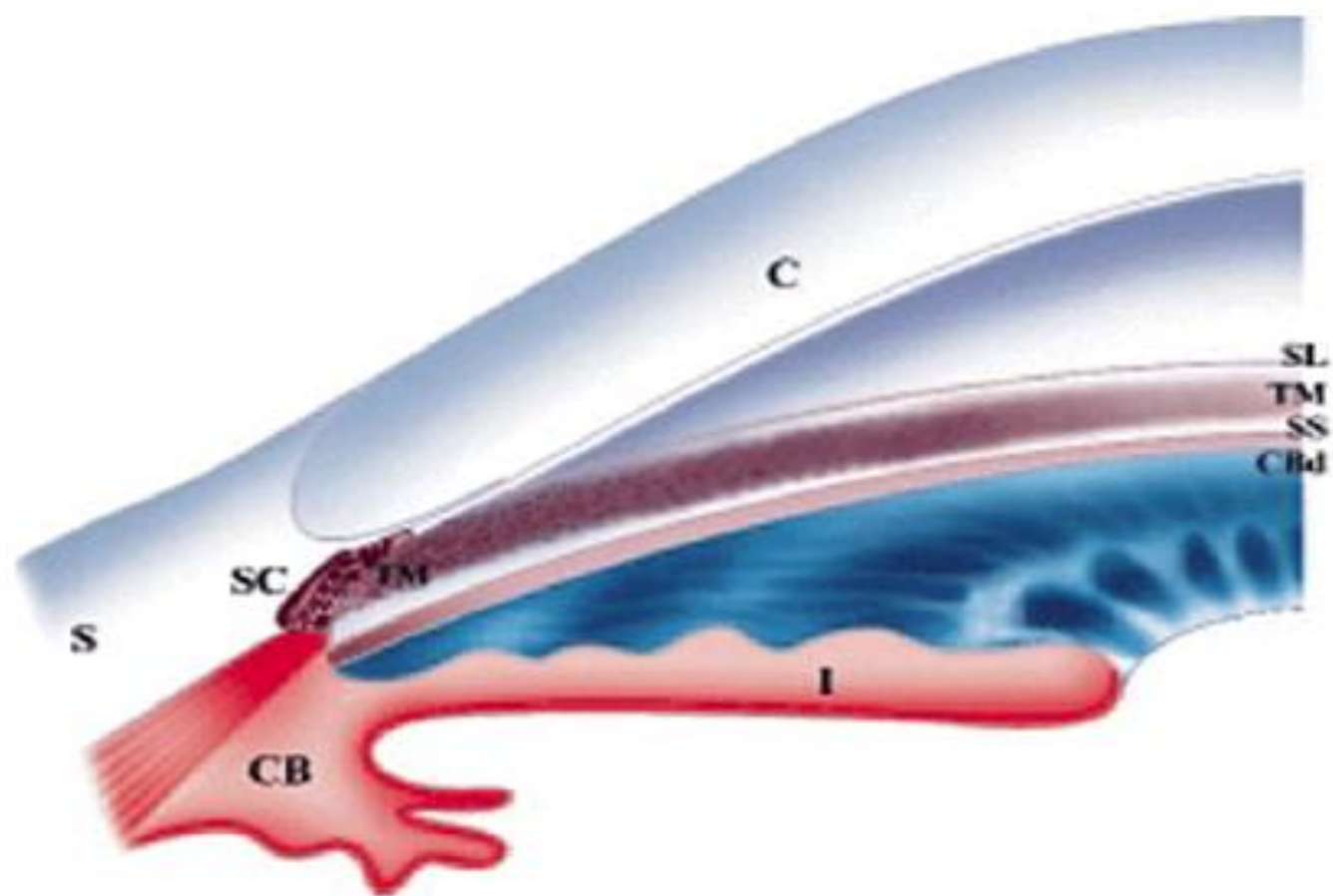
- The medical treatment of glaucoma was initiated with eserine, which is derived from Calabar bean of West Africa.
- This drug was first recognized as a mitotic, and was used for treating iris prolapse.
- The alkaloid pilocarpine was isolated in 1875.

History

- A few futile attempts were made to treat glaucoma:
- Sclerotomy.
- Lensectomy.
- Tenotomy of the superior oblique and myotomy of the inferior oblique.
- Iridectomy 1856.
- Instillation of atropine and repeated paracenteses to lower IOP.
- Iridosclerectomy in 1905.

angle





Classification Outline

1- Open-angle glaucoma:

A- Primary open angle glaucoma.

B- Glaucoma suspect.

C- Normal-tension glaucoma.

D- Secondary open-angle glaucoma.

-Increased resistance to trabecular mesh work outflow associated with another condition; pigmentary glaucoma, phacolytic glaucoma, steroid-induced glaucoma.

-Increased post-trabecular resistance secondary to elevated episcleral venous pressure; caroted-cavernous sinus fistula.

Classification Outline

2- Angle-closer glaucoma

A- Primary angle-closer glaucoma with relative pupillary block.

B- Primary angle-closer glaucoma without relative pupillary block; plateau iris.

C- Secondary angle-closer glaucoma with relative pupillary block; swollen lens, secluded pupil.

D- Secondary angle-closer glaucoma without relative pupillary block;

- Posterior pushing mechanism: posterior segment tumor, scleral buckling procedure, uveal effusion.

- Anterior pulling mechanism: iridocorneal endothelial syndrome, neovascular glaucoma, inflammation.

Classification Outline

3- Combined-mechanism glaucoma

4- Childhood glaucoma

A- Primary congenital/infantile glaucoma

B- Glaucoma associated with Congenital anomalies

- Associated with ocular disorders; anterior segment dysgenesis, aniridia.

- Associated with systemic disorders; rubella, Lowe's syndrome.

C- Secondary glaucoma in infants and children; glaucoma secondary to retinoplastoma or trauma.

Clinical evaluation:

- History and general examination
- Refraction
- External examinations
- Pupil examination
- Biomicroscopy
- Perimetry
- Tonometry
- Gonioscopy
- Ophthalmoscopy

glaucoma suspect

An individual may be considered a glaucoma suspect on the basis of:

1- elevated IOP

2- suspicious appearance of the optic disc

3- visual field.

glaucoma suspect

- The most common finding causing suspicion of glaucoma is elevated IOP, which is often termed ocular hypertension.
- Individuals with this condition require close observation and follow up.
- Some of 4%-7% of individuals over the age of 40 have IOPs above 21 mm Hg.

glaucoma suspect

- There has been some controversy over the management of these individuals, with at least three schools of thought:
- 1- treat all of them, thus exposing many patients who did not or who will not develop glaucoma to the side effects and expense of therapy.
- 2- treat none, thus allowing some patients to develop potentially preventable optic disc damage and visual field loss.
- 3- select and treat those patients who appear at greatest risk.

glaucoma suspect

- The challenge, therefore, is to identify what characteristics or combinations of characteristics place an individual at increased risk.
- Some glaucoma suspects can lose a significant percentage of their optic nerve ganglion cell axons while maintaining normal kinetic visual fields.

glaucoma suspect

- The ophthalmologist must look carefully for signs for early damage to the optic nerve or visual field, such as:
 - progressive cupping
 - asymmetry of cupping
 - splinter disc hemorrhage
 - nerve fiber layer dropout
 - subtle visual field defects.

glaucoma suspect

- If these are present, the patient should no longer be considered a suspect and should be treated as an early case of primary open-angle glaucoma.
- If no signs of early damage are present, the ophthalmologist should attempt to assess the patient risk for developing glaucoma.
- Patients at high risk can be treated, to possibly prevent or delay the disease.
- Patients at low risk should generally be observed without treatment.

glaucoma suspect

The major risk factors include

- elevated IOP,
- suspicious optic disc,
- family history of glaucoma,
- race (greater risk in blacks),
- increasing age,
- myopia,
- diabetes melitus, and systemic vascular disease,
and
- central retinal vein occlusion.

glaucoma suspect

Indications for the institution of glaucoma treatment in this group include

- the presence of reproducible typical glaucomatous visual field defects,
- acquired enlargement of the optic cup or loss of retinal nerve fiber layer, or
- acquired peripapillary atrophy.

glaucoma suspect

- Additional factors that may contribute to the decision to start anti-glaucoma therapy include
 - the desires of patient,
 - reliability of visual fields,
 - availability for follow-up visits, and
 - ability to examine the optic disc.

glaucoma suspect

- It should be emphasised that primary open angle glaucoma is the bilateral disease. If one eye requires treatment, in most instances elevated IOP in the other eye should be treated.
- The risk for progression of untreated fellow eyes is approximately 29% over five years.
- If the clinician elects to treat solely on the basis of IOP, care must be taken that the risks of therapy do not exceed the risks of disease.
- In patients without demonstrated damage to the optic nerve, the definition of IOP control can be less rigorous.

example

- For example, in the treating a patient with IOPs in the 30s but with normal optic disc and visual fields, lowering the IOP into the 20s might be satisfactory, as long as the side effects of therapy are acceptable to the patient.

Notes

- Management of many of these conditions is controversial.
- Surgical management is continually changing with the development of new instruments and techniques.
- Specific details of surgical techniques are better learned at a practice hospital and in operating room with an experienced teacher, as well as through textbooks, original articles, and courses designed specifically for these purpose.

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