CONGENITAL GLAUCOMA

- The congenital glaucoma are a group of diverse disorders in which abnormal high intraocular pressure results due to developmental abnormalities of the angle of anterior chamber obstructing the drainage of aqueous humour.

- Glaucoma is not a single disease process but a group of disorders characterized by a progressive optic neuropathy resulting in a characterstic appearance of the optic disc and a specific pattern of irreversible visual field defects that are associated frequently but not invariably with raised intraocular pressure (IOP).

NEW BORN GLAUCOMA

when IOP is raised during intrauterine life and child is born with ocular enlargement.

It occurs in about 40 percent of cases.

INFANTILE GLAUCOMA

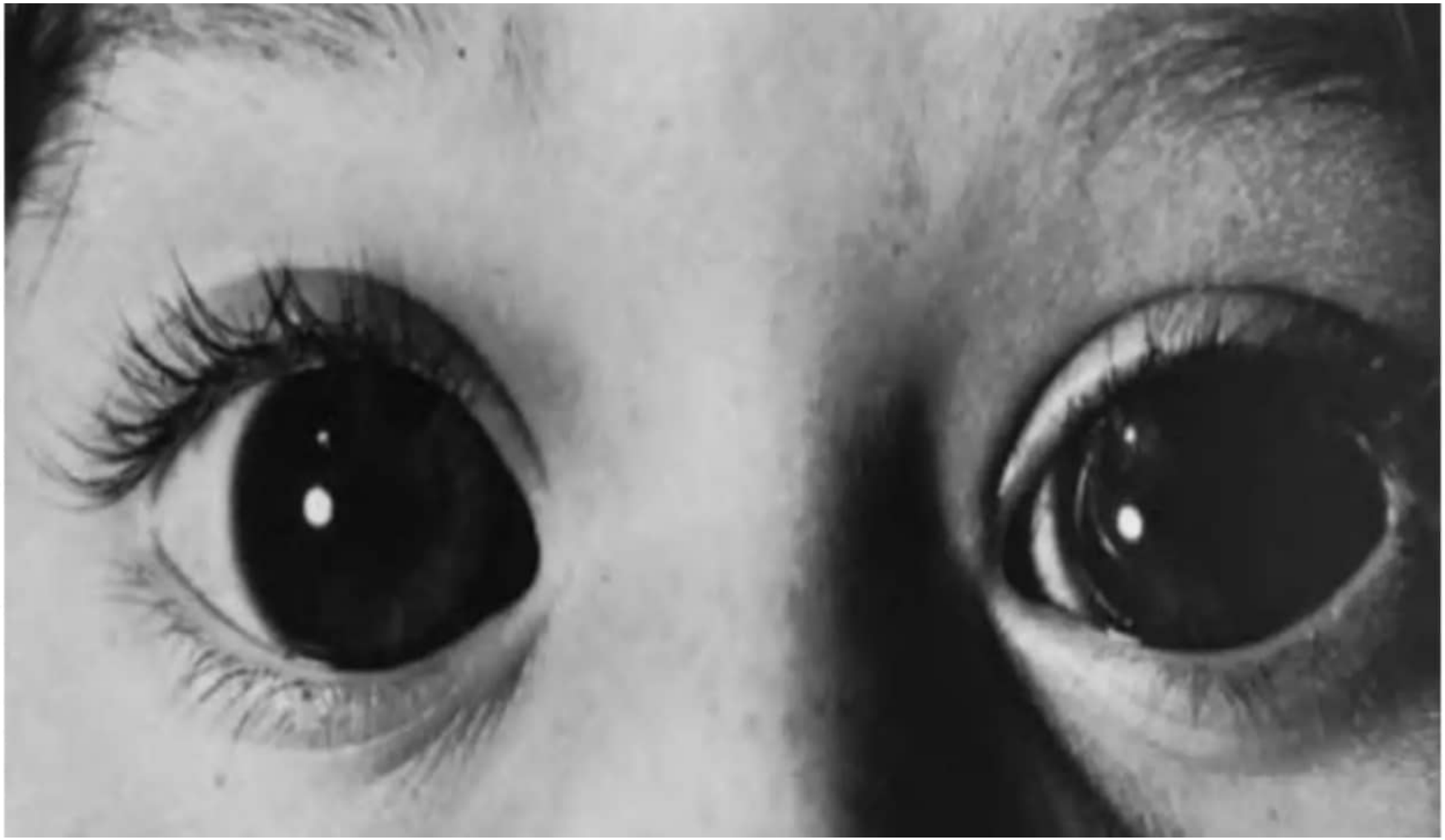
when the disease manifests prior to the child's third birthday.

It occurs in about 50 percent of cases.

JUVENILE GLAUCOMA

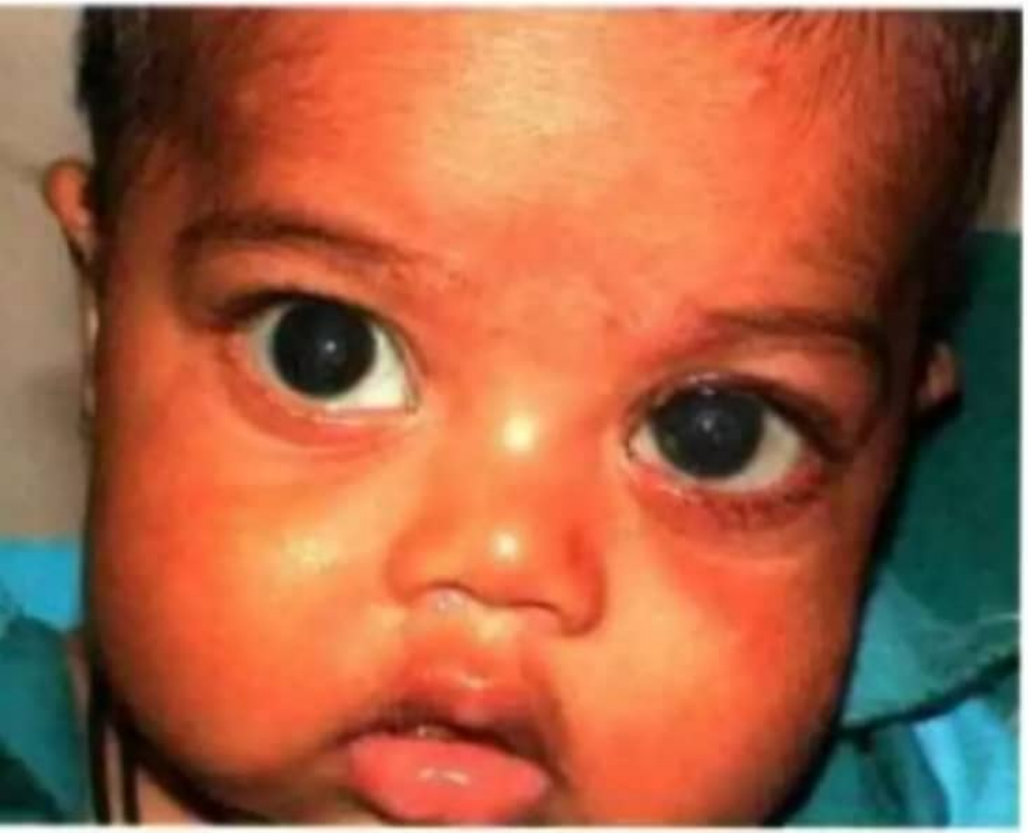
- the rest 10 percent of cases who develop pressure rise between 3-16 years of life.
- Gonioscopy is normal.

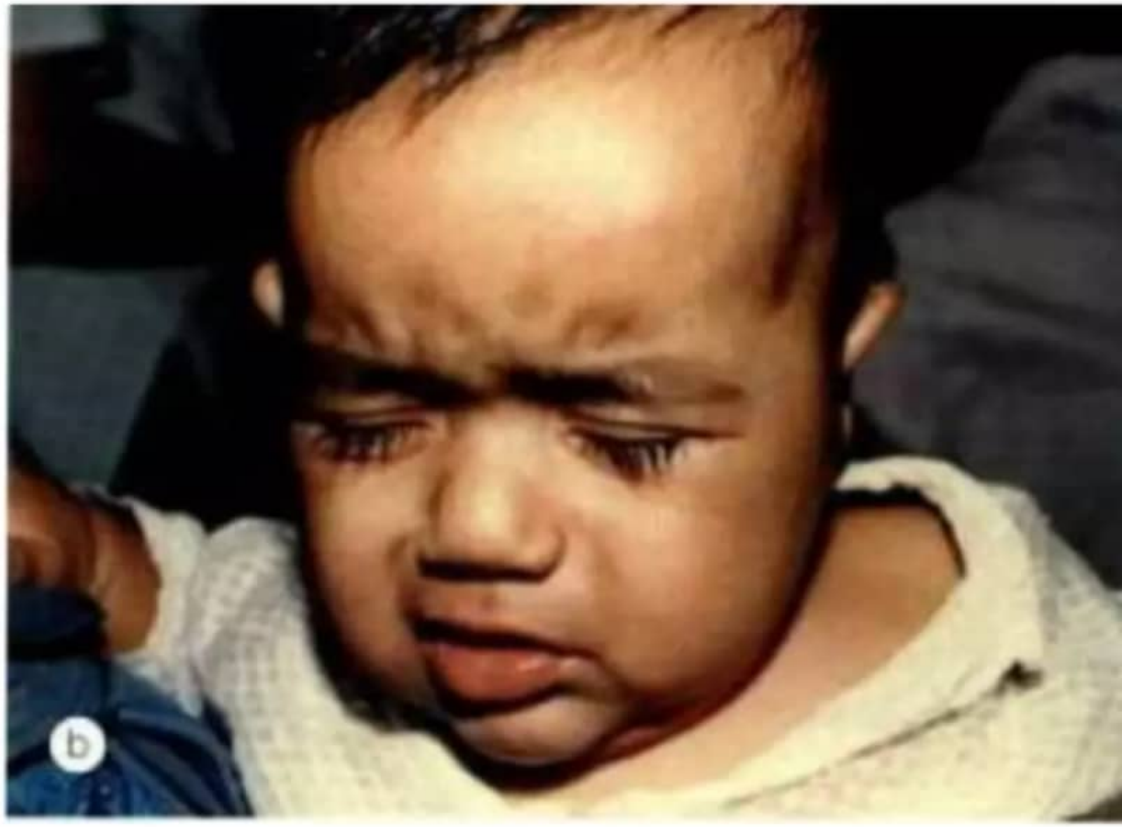
- Most infant corneas measure less than 10.5mm in horizontal diameter.
- A measurement over 12mm is considered diagnostic of congenital glaucoma.
- These eyes, hazy and enlarged, appear so grotesque that the term *buphthalmos.*

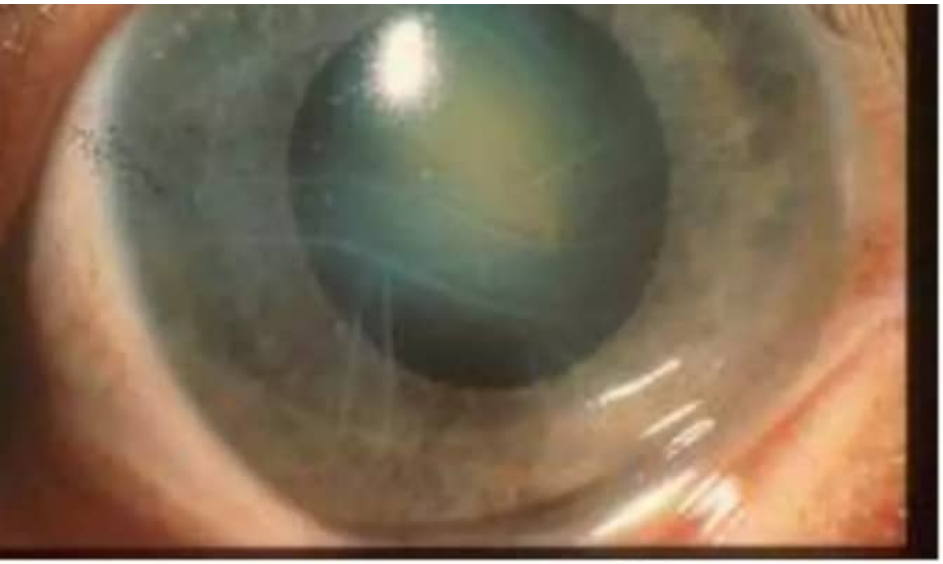


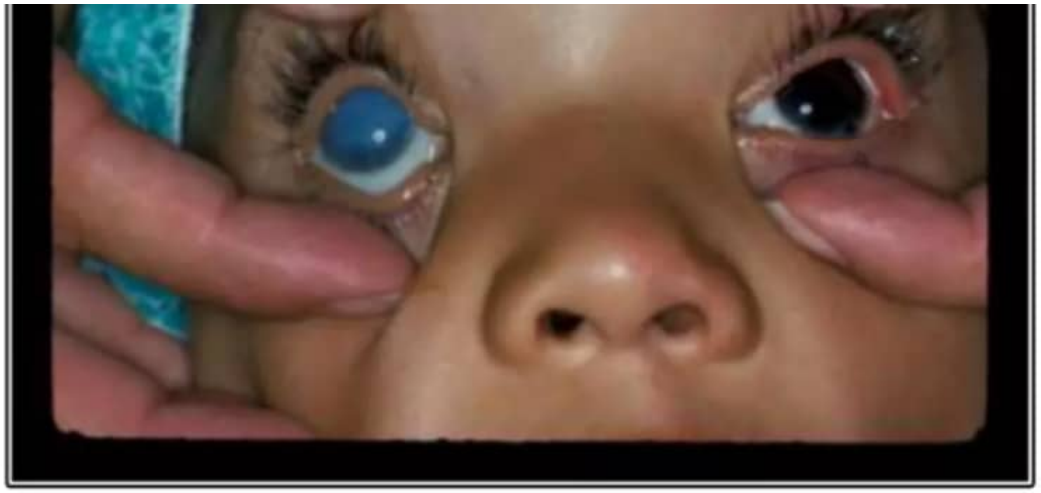
CLINICAL FEATURES

- ***Photophobia, blepharospasm, lacrimation and eye rubbing often occur together.***
- ***Corneal signs. Corneal signs include its oedema,*** enlargement and Descemet's breaks.
- ***IOP is raised which is neither marked nor acute.***
- ***Axial myopia may occur because of increase in*** axial length which may give rise to anisometropic amblyopia

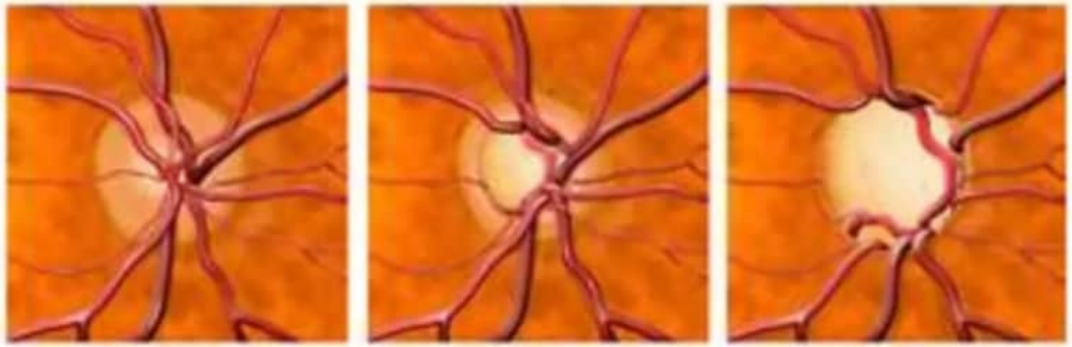








Optic nerve head cupping progression



- *Sclera becomes thin and appears blue due to* underlying uveal tissue.
- *Anterior chamber becomes deep.*
- *Iris may show iridodonesis and atrophic patches* in late stage.
- *Lens becomes flat due to stretching of zonules and* may even subluxate.
- *Optic disc may show variable cupping and atrophy* especially after third year.

- A complete examination under general anaesthesia should be performed on each child suspected of having congenital glaucoma:

(1) MEASUREMENT OF IOP : Schiotz or preferably hand held Perkin's applanation tonometer since scleral rigidity is very low in children.

(2) MEASUREMENT OF CORNEAL DIAMETER.

(3) OPHTHALMOSCOPY TO EVALUATE OPTIC DISC

(4) GONIOSCOPIC EXAMINATION

(5) CENTRAL CORNEAL THICKNESS

(6) ULTRA SOUND

DIFFERENTIAL DIAGNOSIS

- *Cloudy cornea. In unilateral cases the commonest* cause is trauma with rupture of Descemet's membrane. In bilateral cases causes may be trauma, interstitial keratitis and corneal endothelial dystrophy.
- *Large cornea due to buphthalmos should be* differentiated from megalocornea.
- *Lacrimation in an infant is usually considered to* be due to congenital nasolacrimal duct blockage and thus early diagnosis of congenital glaucoma may be missed.

megalocornea.

Lacrimation in an infant is usually considered to be due to congenital nasolacrimal duct blockage and thus early diagnosis of congenital glaucoma may be missed.

Photophobia may be due to keratitis or uveitis.

Raised IOP in infants may also be associated with retinoblastoma retinopathy of prematurity, persistent primary hyperplastic vitreous, traumatic glaucoma and secondary congenital glaucoma seen in rubella, aniridia.