DEGENERATIONS OF THE CONJUNCTIVA

PINGUECULA

Pinguecula is an extremely common degenerative condition of the conjunctiva.

It is characterized by formation of a **yellowish white patch** on the **bulbar** conjunctiva near the limbus.

This condition is termed pinguecula, because of its resemblance to fat, which means pinguis.

Etiology

Not known exactly.

It has been considered as *an age change,* occurring more commonly in persons exposed to strong **sunlight**, dust and wind.

It is also considered a precursor of pterygium

Pathology

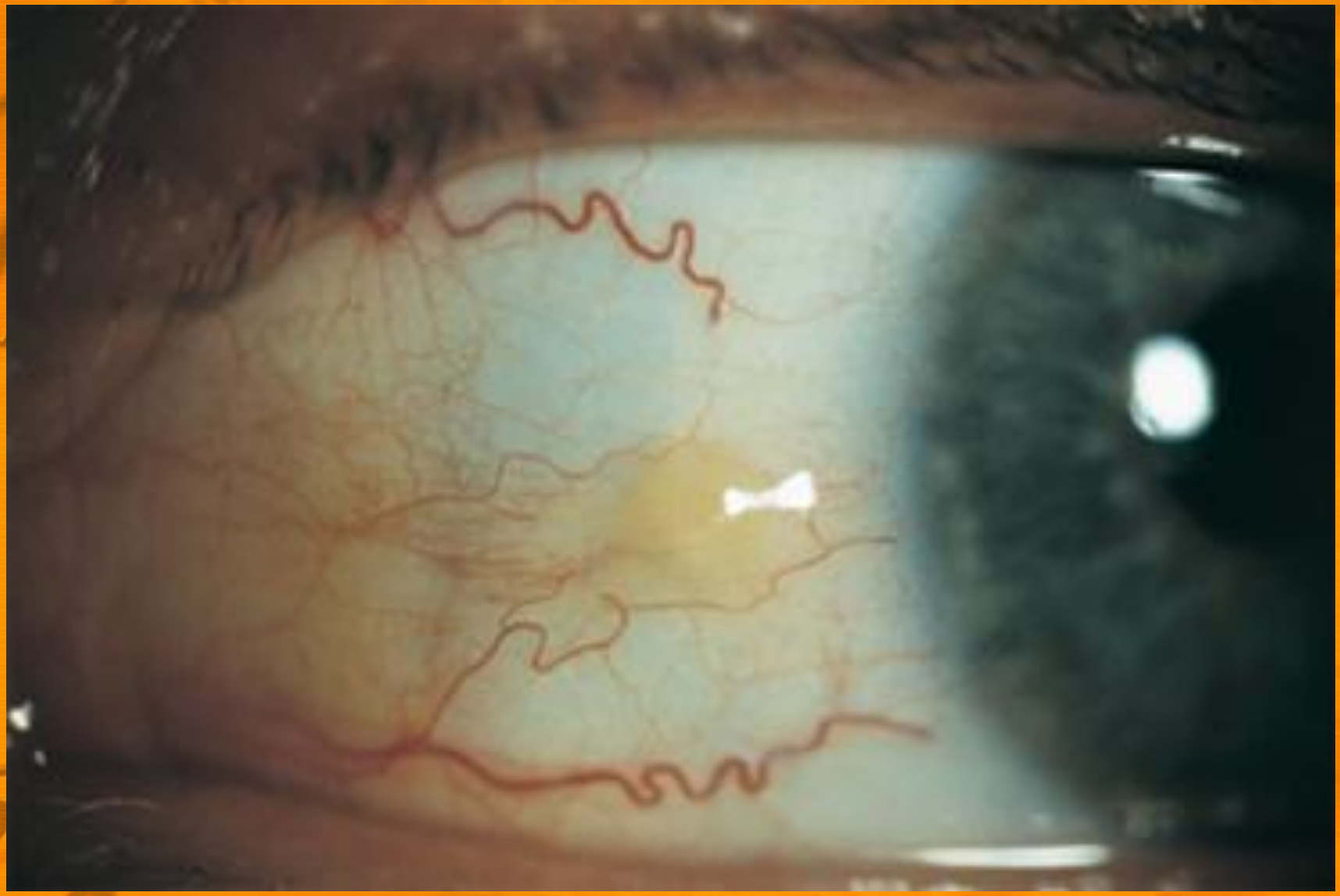
There is an **elastotic degeneration** of collagen fibres of the substantia propria of conjunctiva, coupled with deposition of amorphous hyaline material in the substance of conjunctiva.

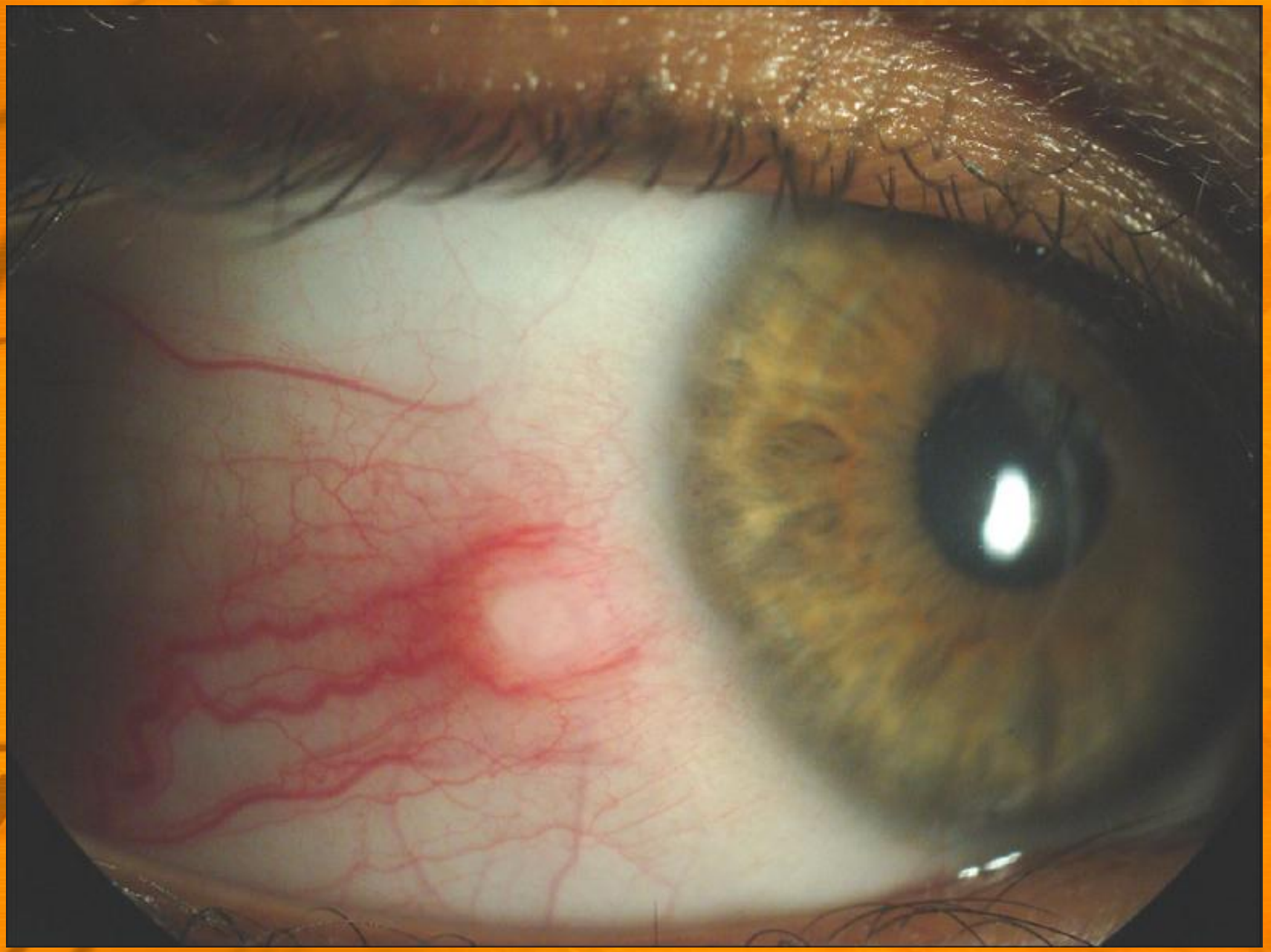
Clinical features

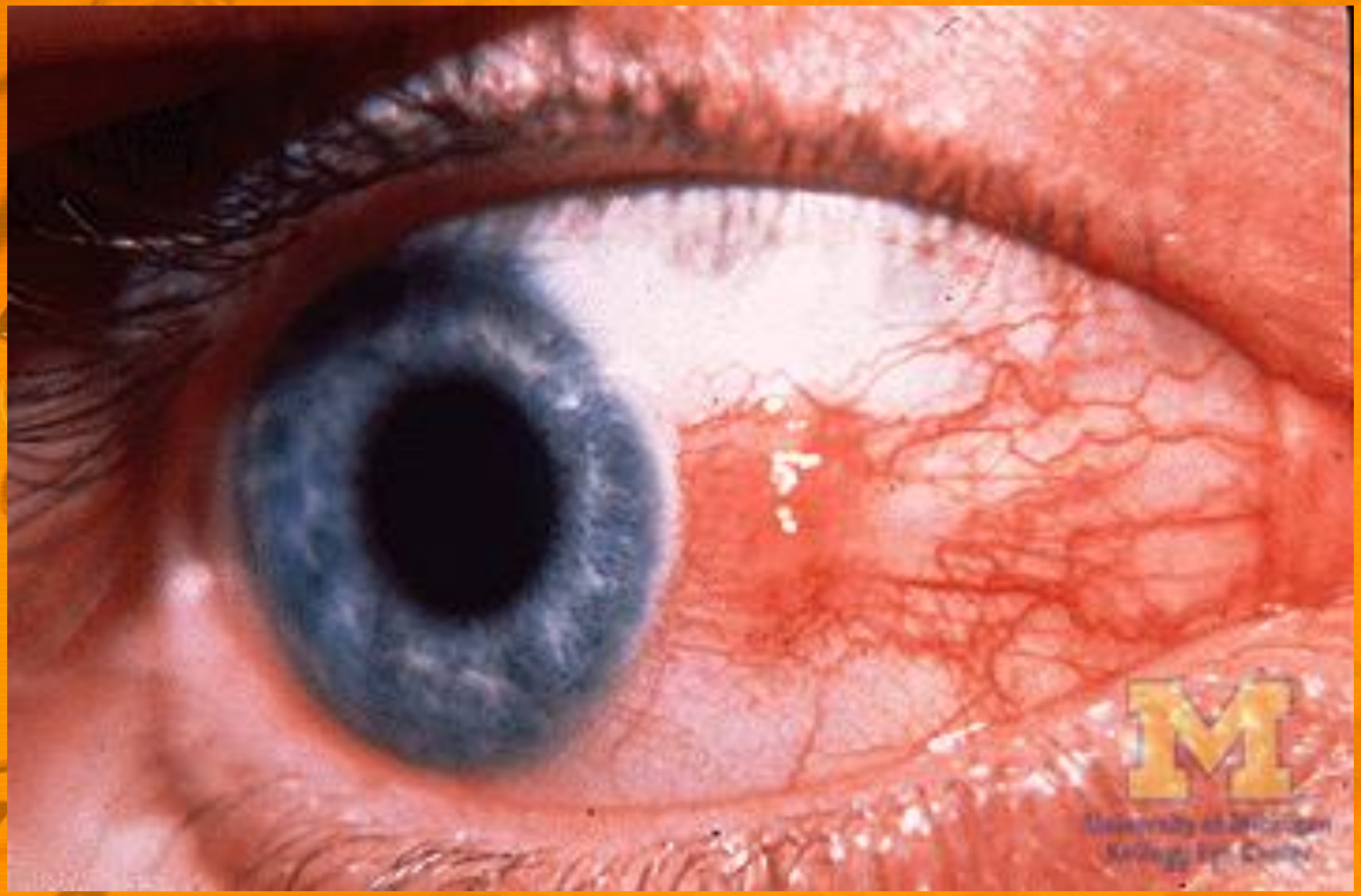
is a bilateral, usually stationary condition.

presenting as **yellowish white triangular patch** near the limbus. Apex of the triangle is away from the cornea.

It affects the nasal side first and then the temporal side. When conjunctiva is congested, it stands out as an avascular prominence.







Treatment

In routine no treatment is required for pinguecula.

However,if so desired, it may be **excised**.

PTERYGIUM

Pterygium (Pterygion = a wing) is a wing-shaped fold of conjunctiva encroaching upon the cornea from either side within the interpalpebral fissure.

Etiology

Unknown, but it is a degenerative condition related to:

1) Chronic irritation, by dust, wind, fumes ... etc.

2) UV Rays: (sunrays) is the most important factor.

3) Pinguecula: may be a precursor for the pterygium.

Incidence

-Very common in Egypt.

-Unilateral or bilateral.

-Nasal side is commonest site. (??)

Pathology

1) It is a fibrovascular membrane.
2) Pathology starts in the cornea.
3) Elastosis and hyaline degeneration are marked.
4) Number of layers in Pterygium reaches up to 10 -15 layers (while there are only two layers in normal conjunctiva).
5) Bowman's membrane and superficial layer of stroma are destroyed.
6) **Stocker's line:** is a pigmented line of iron deposition in corneal epithelium anterior to the advancing head of pterygium.

Clinical features

Pterygium is more common in elderly males doing Outdoor work. It may be unilateral or bilateral.

It presents as a **triangular fold** of conjunctiva encroaching the cornea in the area of palpebral aperture, usually on the nasal side but may also occur on the temporal side.

Deposition of iron seen sometimes in corneal epithelium anterior to advancing head of pterygium is called ***Stocker's line***.

Parts

A fully developed pterygium consists of three Parts

i. *Head* (apical part present on the cornea),
ii. *Neck* (limbal part)
iii. *Body* (scleral part) extending between limbus and the canthus.

Types

- **Progressive pterygium**

Thick, fleshy and vascular with a few infiltrates in the cornea, in front of the head of the pterygium (called Cap of pterygium).

- **Regressive pterygium**

is thin, atrophic, attenuated with very little vascularity. There is no cap. Ultimately it becomes membranous But never disappears.

Symptoms

1) Usually Asymptomatic.
2) **Disfigurment.**
3) Chronic irritation : From intermittent episodes of congestion → hyperemia, photophopia, lacrimation, FB sensation.
4) **Visual impairment** due to:
    a) Encroachment on papillary area.
    b) Irregular astigmatism.
    c) Symblepharon formation →limitation of ocular motility → diplopia.

Differential Diagnosis

	Pterygium	Pseudo-pterygium
1) Nature	Degenerative condition	Conjunctival fold attached to the base of healed corneal ulcer
2) Side	Usually bilateral	Unilateral
3) Site	Usually Nasal	Any where
4) Course	Stationary-Progressive	Stationary
5) Hook test:	The hook can't be passed under its neck	The hook can be passed under its neck

Management

1) Follow up:

For a small asymptomatic pterygium. With patient reassurance.

***2)* Medical treatment:**

For syptomatizing pterygium. Including : Ocular lubricants and weak steroids.

3) Surgical treatment:

Indications:

1- Visual indications:

-Encroachment on the papillary area.

-Restriction of the lateral gaze

-diplopia.

2- Optical indications: irregular astigmatism.

3- Cosmetic indications.

Recurrence of the pterygium after surgical excision is the main problem (30-50%). However, it can be reduced by any of the following measures:

Surgical excision with bare sclera, **plus**.

1- Surgical excision with free **conjunctival graft** taken from the same eye or other eye is presently the preferred technique.

2- Surgical excision with **amniotic membrane** graft

3- Use of antimitotic drugs such as **mitomycin-C** or thiotepa.

4- Postoperative beta irradiations (not used now).

5- In recurrent recalcitrant pterygium, surgical excision should be coupled with lamellar keratectomy and lamellar keratoplasty.

7- Limbal stem cell transplantation

Conjunctival and amniotic membrane graft

1) Acts as a mechanical barrier against development of new blood vessels from the conjunctiva to the cornea.
2) Allows rapid re-epithelization of the bared sclera that acts as another barrier against recurrence.

Importance

1) Best, safest & least incidence of recurrence (< 5%).
2) Rapid Patient recovery & return to work within few days without irritation.

Mitomycin C

Nature: antimetabolite alkylating agent.

Action:

a- In general:

- Inhibit DNA replication.
- Inhibit mitosis and protein synthesis.
- Inhibit fibroblast formation,

b- In pterygium:

Prevent metaplasia of endothelial cells of the blood vessels into fibroblasts.

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Presentation: in powder form

Complications:

1) **Scleritis, scleromalacia**: specially if MC is used in powder not in solution.
2) Uveitis and endophthalmitis.
3) Complicated cataract and secondary glaucoma.

Other uses:

Used also as adjunctive treatment for application on scleral bed to prevent closure of trabeculectomy site in failed trabeculectomy

Thioteba

-Nature: antimetabolite alkylating agent.

-Action: as Mitomycin C.

-Application: Eye drops/3 hours post operative.

Complications:

1) Permenant lid depigmentation.

2) Conjunctival hyperemia & allergy.

Beta-Irradiation

Action: Inhibits vascular endothelial cell proliferation.

Complications: cataract, scleral perforation, uveitis