
PTERYGIUM: A NEW SURGICAL TECHNIQUE

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INTRODUCTION:

A Pterygium is an elevated, superficial, external ocular mass that usually forms over the perilimbal conjunctiva and extends onto the corneal surface. Pterygia can vary from small, atrophic quiescent lesions to large aggressive rapid growing fibrovascular lesions that can distort the corneal topography, and in advanced cases, obscure the optical center of the cornea.

Recurrence of the pterygium is one of the most frequent problems faced by the ophthalmologist (as high as 40%) even after carrying out procedures like simple excision with bare sclera to sliding of flaps of conjunctiva into fornices with and without adjunctive beta radiation therapy and/or use of topical chemotherapeutic agents

PATHOPHYSIOLOGY:

The patho-physiology of pterygium is characterized by elastotic degeneration of collagen and fibrovascular proliferation with an overlying covering of epithelium. Histopathology of abnormal collagen in the area of elastotic degeneration shows basophilic with hematoxylin and eosin stain.

PREDISPOSING FACTORS:

- 1) Ultraviolet light exposure (UV-A & UV-B) appears to be the most significant factor in the development of pterygium. Thus people living more close to the equator have more chances of developing a pterygium.
- 2) More outdoor activities in the sun predispose to pterygium
- 3) A pinguecula will precede the formation of pterygium if affected area is exposed to repeated irritation from sunlight, wind and dust.
- 4) Other agents that may contribute to the formation of pterygium include allergens, noxious chemicals and irritants (wind, dust and pollution)
- 5) Heredity is also a factor.
- 6) Inadequate tear film.

SIGNS AND SYMPTOMS:

- a) Usually symptomatic in a patient presenting with cosmetic concern about a tissue "growing over the eye".
- b) In some cases the vascularized pterygium may become red and inflamed, motivating patient to seek immediate care.
- c) Irregular ocular surface can interfere with stability of precorneal tear film, creating a symptomatic dry eye syndrome.
- d) Rarely a pterygium may induce irregular warpage or even obscure the visual axis of the

eye, resulting in the diminished acuity. Clinical inspection of pterygium reveals a raised, whitish triangular wedge of fibrovascular tissue whose base lies within the interpalpebral conjunctiva and whose apex encroaches the cornea the leading edge of the tissue often displays a fine reddish brown iron deposition line (STOCKER LINE). The capillaries nourishing the tissue may remain dormant, preventing the pterygium from growing over central cornea or may grow over it affecting vision.

MANAGEMENT:

- 1) Because pterygium appears to be linked to environmental exposure, management of asymptomatic or mildly irritative cases can be treated with UV- blocking spectacles and liberal ocular lubricants.
- 2) Advise patients to avoid smoky or dusty areas as much as possible.
- 3) Treatment of inflamed or irritative pterygia with topical decongestants or antihistaminic combinations and/or mild topical corticosteroids four times a day.

Surgical excision of a pterygium is indicated only for unacceptable cosmesis and/or significant encroachment of visual axis. Many surgical methods have been tried but the most promising and advanced method is the use of a graft that can be:

- a) Conjunctiva of — same eye of same person
— Other eye of same person

b) Mucosal membrane

c) Amniotic membrane

WE HAVE IN THE LAST ONE YEAR SUCCESSFULLY TRIED A NEW METHOD OF CONJUNCTIVAL GRAFTING. Also known as conjunctival translocation.

Advantages of conjunctival translocation of graft:

- 1) Easy to perform
- 2) Prevents bare sclera
- 3) Changes the flow of blood vessels
- 4) Minimal tissue loss
- 5) No dellen formation
- 6) Avoids any use of material from outside
- 7) Supplies stem cells
- 8) No need of beta-radiation\chemotherapeutic agents

METHOD:

Anesthesia includes injection of 2% lignocaine with adrenaline in the mass of pterygium.

Advantages: 1) No retro bulbar or peribulbar

injection

2) Bloats the pterygium, allows easy dissection.

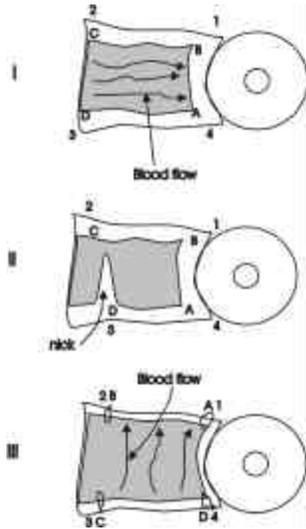
STEPS:

Make 2 nicks on either side of the base of the pterygium with scissors.

Pass an iris repositor underneath the body of pterygium just over the scleral bed.

3) Slide it onto the cornea bluntly dissecting the head of pterygium off the cornea

4) Remnants on the cornea carefully dissected to make it smooth



5) Special attention is given to smoothing of limbus to prevent recurrence

6) The head of the pterygium is shaved off

7) Body of the pterygium is separated from the undersurface of the conjunctiva by Dissection as the assistant holds the two ends of the conjunctiva with forceps, care is taken

that no conjunctival button-holing occurs

8) The respective muscle i.e. medial rectus for nasal and lateral rectus for lateral pterygium is visualized and their action checked.

9) Pterygium is then dissected from the scleral bed and completed removed.

10) The bare sclera is cauterized with wet field cautery

Conjunctival transposition is done as follows:

A) nick at the base, D as shown in the diagram
B) Take stay suture, from A to 1 as per the diagram, this prevents the rolling of the conjunctiva and ease in suturing.

C) Release the pterygium by extending the incision till C

D) Suture as follows- A is attached to 1
B is attached to 2
C is attached to 3
D is attached to 4

E) Suturing is done with 9/0 nylon sutures, the advantages of which are that they are sturdy and no reaction seen as with silk. Suturing can be interrupted, but as seen in a few cases, mattress sutures were superior.

POST OPERATIVE CARE The eye is patched for a day, steroid anti-biotic drops are started next day.

FOLLOW-UP AND PATIENT CARE. Patient is asked to follow up after seven days for suture removal and kept on lubricants for a few days.

RESULT: The surgery was carried out on 15 patients,

- 7- regular pterygia,
- 1-with bilateral pterygium,
- 4- progressive pterygia,
- 3- recurrent pterygia,

CONCLUSION: A) Bilateral pterygia were difficult to operate in one sitting but were managed well.

B) 11 patients followed up with an average follow up of 6 months. Of which 7 patients had no complaints, eye was quiet, no bare sclera seen.

3 patients with interrupted sutures complained of foreign body sensation, which reduced on suture removal.

In 1 patient the wound gaped and resuturing was carried out.

Hence it was seen that patients with mattress sutures did better with no foreign body sensation or wound gape and is hence a better suturing technique.

Thus good results were observed with unlikely chance of recurrence and cosmesis achieved, though a large scale study needs to be carried out.

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Glasses are no use to the blind
Anonymous. Korean Proverb.