Chapter 1
Pterygium Excision with Conjunctival Autograft

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Abstract Pterygium is characterized by encroachment of an abnormal fibrovascular tissue from the bulbar conjunctiva onto the cornea (Arch Ophthalmol 115:1235–1240, 1997). Upon reaching the corneal surface, this fibrovascular tissue exerts cicatricial traction that flattens the caruncle and obliterates the semilunar fold (Arch Ophthalmol 130:39–49, 2012). The indications for pterygium surgery include reduced vision due to obscuration of the optical center of the cornea, irregular astigmatism, chronic irritation, recurrent inflammation, motility restriction, and cosmesis. Numerous surgical techniques have been described, but the main concern of pterygium surgery is the unpredictable rate and timing of recurrence (Ocul Surf 12:112–119, 2014). The underlying cause of pterygia is thought to be secondary to UV light exposure and arid conditions. Patients should have been evaluated and deemed appropriate for such surgical intervention. Patients should have been educated about the risks and benefits of the procedure, including alternatives.

Keywords Pterygium • Actinic elastosis • Fibrovascular proliferation • Conjunctival autograft • Autograft • Sunlight

Indications

Symptomatic and/or cosmetic pterygium

Essential Steps

1. Identification of boarders of pterygium
2. Identification of the plica semiluminaris
3. Excision of pterygium
4. Excision of redundant Tenon's capsule

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5. Smooth corneal surface
6. Measure size of defect of excised pterygium
7. Mark the superotemporal donor site
8. Excision of donor graft
9. Implantation of graft
10. Application of collagen shield/antibiotic

Complications

– Graft dehiscence
– Corneal abrasions
– Endophthalmitis
– Failure of graft
– Recurrence of pterygium
– Change in visual acuity

Template Operative Dictation

Preoperative diagnosis: Pterygium *(OD/OS)*

Procedure: Pterygium excision *(OD/OS)* with conjunctival autograft

Postoperative diagnosis: *Same*

Indication: This ____- year-old *male/female* had developed a pterygium over the past _____*months/years* and on workup was found to have a ___×___mm pterygium, with crossing of the pterygium into the visual axis causing significant discomfort (*and astigmatism, if present)*. After a detailed review of risks and benefits, the patient elected to undergo the procedure.

Description of the procedure: The patient was identified in the holding area, and the *(right/left)* eye was marked with a marking pen. The patient was brought into the OR on an eye stretcher in the supine position. A proper time-out was performed verifying correct patient, procedure, site, positioning, and special equipment prior to starting the case. General anesthesia was induced. A *(LMA/ETT)* was placed and local anesthetic was injected in the standard *(retrobulbar/peribulbar)* fashion using ____ml of lidocaine and marcaine in a 50:50 mix. The *(right/left)* eye was prepped and draped in the usual sterile fashion. The operating microscope was centered over the *(right/left)* eye, and an eyelid speculum was placed in the eye. The pterygium was identified and

[Choose one]

If shaving technique*—the head of the pterygium is grasped with 0.12 forceps, and a beaver blade was used to perform a partial lamellar keratectomy to excise the head of the pterygium from the corneal surface. The body of the pterygium was also partially excised from the scleral bed with the beaver blade and Westcott scissors.*

Careful attention was paid to preserving normal conjunctiva. Excessive scar tissue and Tenons were excised using the Westcott scissors.

***If avulsion technique**—a radial incision was made around the body of the pterygium using Westcott scissors and 0.12 forceps. Using blunt dissection the pterygium was removed from scleral bed. Careful attention was paid to preserving normal conjunctiva. An avulsion technique was then used to remove the head of the pterygium. After the entirety of the pterygium was removed and submitted for specimen, the remaining conjunctiva was undermined and inspected for remaining Tenon's capsule and/or fibrous tissue which was then excised.*

The diamond burr was used to smooth the corneal defect, limbal bed, and scleral bed. Wet-field cautery was used as needed to maintain hemostasis on the scleral bed. The previous site of pterygium was measured using calipers and noted to be __×__mm. At this time, the 0.12 forceps were used to turn the eye inferiorly to mark the donor graft site at the superotemporal conjunctiva. A graft sized __×__ mm was measured and outlined with a marking pen. The conjunctival autograft was then excised using Westcott scissors. Once excised, the graft was transposed to the pterygium excision site with extra care taken to place limbus to limbus on the scleral bed. _#_ interrupted *8-0 vicryl* sutures were then used to secure the graft into place, followed by _#_ interrupted plain gut sutures to close the donor site superiorly. Once the graft was secured, antibiotic ointment was applied to the (right/left) eye, and the eyelid speculum was removed. A pressure patch was placed over the (right/left) eye, and the patient was transferred to the postanesthesia care unit in stable condition.

References

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