

## Chapter 2

# Pterygium Excision with Conjunctival Pedicle Graft

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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 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 • Transposition • Autograft • Sunlight

### Indications

Symptomatic and/or cosmetic pterygium

### Essential Steps

1. Identification of borders 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. Mitomycin application to surface of bare sclera
7. Transposition of the pedicle graft
8. 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:** (*Recurrent*) pterygium excision (*OD/OS*) with conjunctival pedicle graft

**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. 0.02 mg/cm<sup>3</sup> of mitomycin was applied to the surface of the bare sclera using a Weck-Cel over a period of \_\_×\_\_ minutes. This was followed by a copious irrigation of the bare scleral surface with balanced saline solution. An inferonasal conjunctival peritomy was performed using Westcott scissors, around the inferior limbus. A vertical conjunctival relaxing incision was then made at the lateral edge of the peritomy to fashion a pedicle graft. The pedicle graft was then transposed to the site of the pterygium excision and sutured in place using # 8-0 vicryl-interrupted sutures. Once the graft was secured, a collagen shield soaked in Maxitrol was placed over the (right/left) cornea, 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

1. Tan DT, Chee S-P, Dear KB, Lim AS. Effect of pterygium morphology on pterygium recurrence in a controlled trial comparing conjunctival autografting with bare sclera excision. Arch Ophthalmol. 1997;115:1235–40.
2. Liu J, Fu Y, Xu Y, Tseng SC. New grading system to improve the surgical outcome of multirecurrent pterygia. Arch Ophthalmol. 2012;130(1):39–49.
3. Janson BJ, Sikder S. Surgical management of pterygium. Ocul Surf. 2014;12(2):112–9.



Operative Dictations in Ophthalmology

Rosenberg, E.D.; Nattis, A.S.; Nattis, R.J. (Eds.)

2017, XXV, 694 p. 45 illus. in color., Hardcover

ISBN: 978-3-319-45494-8