

# Medial Rectus Muscle Disinsertion Following Pterygium Surgery Management and Review of Literature

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## Abstract

**Purpose:** To present an extraocular muscle disinsertion in a pterygium surgery

**Case report:** A 61-year-old woman presenting an acute diplopia after a nasal pterygium surgery. The medial rectus muscle was cut during the primary surgery which was immediately reported and the muscle was reinserted to its original site and recovery was more or less obtained.

**Conclusion:** Anatomical consideration meticulous pterygium surgery and prompt reoperation of muscle are recommended.

**Keywords:** Medial Rectus, Pterygium, Surgery

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## Introduction

Extraocular muscle damage is a rare complication of pterygium surgery, although the site of operation is near the muscle insertion. This event is more common in large and/or recurrent nasally pterygium. Few cases have been reported in literature. We reported a patient who experienced the acute onset crossed diplopia and limited adduction of the operated eye immediately following the excision of primary nasal pterygium.

## Case report

A 61-year-old woman who presented an acute onset horizontal crossed diplopia immediately following excision of primary nasal pterygium of the left eye. She had not history of strabismus or intraocular surgery.

She had moderate sized primary nasal pterygium. Under topical and local anesthesia pterygium excision with autogenously conjunctival graft from superior bulbar conjunctiva was performed for her by senior resident. When seen on the first postoperative day, she had 30 prism diopters of exotropia in primary position, adduction was severely limited and the globe moved only to the midline when adducted. Abduction and vertical ductions were full (Figure 1). According to this presentation of the patient, medial rectus muscle injury was suspected and emergency exploration was done on the same day.

In operating room under general anesthesia forced duction test showed no restriction of movement.

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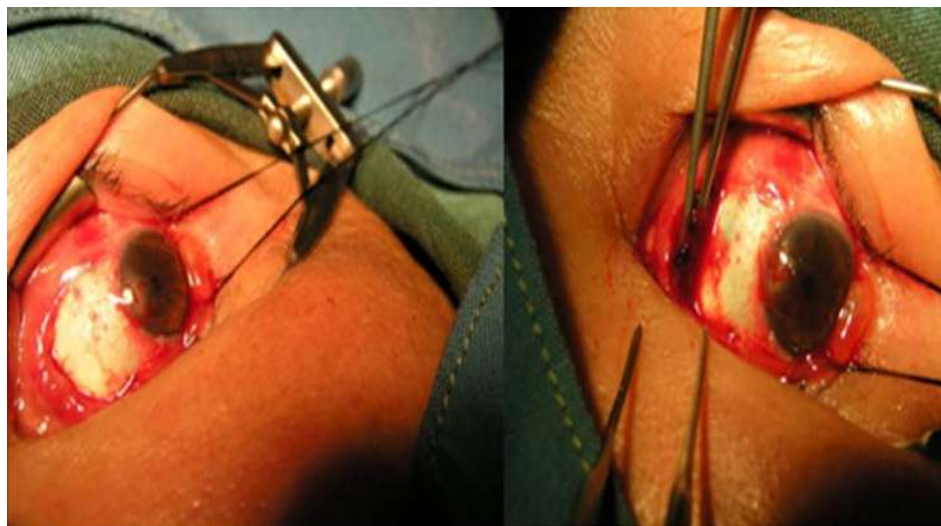
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Previous conjunctival suture were removed and the graft was lifted. Medial rectus muscle was disinserted completely from its insertion. Under high illumination condition manipulation of surrounding tissue was detected, medial rectus muscle was found between tenon tissues and was reattached to its original

insertion by absorbable suture (Figure 2). Conjunctival graft was sutured by absorbable sutures. Postoperatively the patient had no diplopia in primary position, orthotropia in primary position, and presented full rotation of globe in adduction and abduction at last follow-up (three months) (Figure 3).



**Figure 1.** Exotropia in primary position and severely limited adduction of left eye one day after pterygium excision



**Figure 2.** Intraoperative view showed completely disinserted medial rectus muscle. Muscle was grasped under direct visualization.



**Figure 3.** Orthotropia in primary position and nearly full adduction of left eye in final follow-up

## Discussion

Medial rectus muscle injury is a rare complication of pterygium surgery and occurs more likely in large and/or recurrent pterygia.<sup>1-3</sup> Few reported cases were found in the literature. In 1989 Raabe reported three

patients with medial rectus disinsertion following recurrent pterygium surgery.<sup>4</sup> The three cases were explored and medial rectus reattached to its original insertion along with adjustable recession of lateral rectus. They

had orthotropia with full adduction in final follow-up

In 1999 Urgin reported two cases of medial rectus injury following pterygium surgery that had excellent result following reoperation and reattachment to original insertion.<sup>5</sup>

Careful attention to rectus muscle insertion prior to dissection could prevent such injury. Like lost or slipped muscle following strabismus surgery, typical presentation of patients include acute onset exotropia, slowed saccade and limited adduction of operated eye. If these signs and symptoms are seen prompt exploration is needed. Strabismusologist confronted with these finding should be prepared to undertake prompt surgical exploration to ensure the best chance for recovering the potentially lost muscle and to minimize contracture of the antagonist muscle.

The principle of surgery for lost muscle should be observed. These include adequate exposure, good illumination, direct visualization and minimum tissue manipulation. Every effort should be made to find the disinserted muscle and reattach it to original insertion. When the muscle appears shortened, caution is necessary to minimize a restrictive over correction; adjustable suture technique for reattachment should be considered. Reoperation might be required and limited rotation in extreme gaze may be unavoidable. The unique aspect of our case

was the occurrence of complication following primary pterygium excision. We found the injured muscle and reattached it to original insertion without lateral rectus recession. The patient had excellent results in our final follow-up.

## Conclusion

Anatomical consideration, meticulous pterygium surgery, timely diagnosis and prompt reoperation of injured muscle are recommended for every ophthalmologic surgeon.

## References

1. Pico G. Pterygium: Current concept of etiology and management. In: King JH, Mc Tighe JW, eds. *The Cornea World Congress*. Stonham, Mass: Butterworths, 1965:288.
2. Boruchoff SA, Faulks GN. Corneal surgery. In: Spaeth G, ed. *Ophthalmic surgery*. Philadelphia, Pa: WB Saunders Co; 1982:203
3. Townsend W. Conjunctival flaps and pterygium. In: Waltman S, Keates R, Hoyt C, Frueh B, Hershler J, Carroll D, eds. *Surgery of the eye*. New York, NY: Churchill Livingstone Inc; 1988:281.
4. Raab EL, Metz HS, Ellis FD. Medial rectus injury after pterygium excision. *Arc Ophthalmol* 1989;107(10):1428.
5. Urgin MC, Molinari A. Disinsertion of medial rectus following pterygium surgery: signs and management. *Strabismus* 1999;7(3):147-52.