

## **Case Report**

### **A Rare Complication of Corneal Abrasion in Otorhinolaryngology Procedure: Lessons Learnt**

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#### **Abstract**

Despite their close anatomical relationship, orbital complications rarely occur during otorhinolaryngology operations. The well-known complication is the orbital injury during endoscopic sinus surgery. Procedures such as tonsillectomy or sinus surgery limited to the ostium widening rarely induce such an injury. We report two cases of corneal abrasion after otorhinolaryngological operative procedures.

**Keywords:** Cornea abrasion, tonsillectomy, sphenoidotomy

#### **Introduction**

Corneal abrasion is a known complication following general anesthesia. The risk is increased when the operative field is located at the facial area because of the close proximity. Oral and maxillofacial surgeries are known to have increased risk of perioperative complication.<sup>1</sup>

#### **Case 1**

A 34 year-old female, presented with recurrent tonsillitis with two episodes of attack every month for six months consecutively. The severity of the symptoms affected her daily house works. Her symptoms only subsided after one week of oral antibiotics. She was planned for tonsillectomy at a given date.

Intraoperative period was uneventful. However at day one of post surgery, the patient had left watery eye and photophobia. She was referred to ophthalmology team and they noted the presence of eyelash at her left eye subconjunctival region. There was a small abrasion on the cornea. Her vision and pupils were otherwise normal. The impression was left eye corneal abrasion secondary to foreign body or lagophthalmos (failure of eyelid to close fully) which can occur when the patient was under general anesthesia. The left eye was treated with chloramphenicol ointment and artificial tear drops. The

patient was discharged and showed full recovery on review after one week.

#### **Case 2**

A 13 year-old female was diagnosed to have left sphenoid mucocele after she had presented with history of headache, giddiness and vomiting on and off for three months duration. Investigations showed left sphenoid mucocele. The patient was posted for left transnasal endoscopic sphenoidotomy. Intraoperative was uneventful. However the patient complaint of right watery eye with blurring vision on the next day. Examination revealed injected right conjunctiva. She was referred to ophthalmologist and epithelial defect at the right cornea was revealed. She was diagnosed to have right eye corneal abrasion. The left eye was normal (the operated side). The patient was given chloramphenicol ointment, chloramphenicol eye drop and artificial tear drops. Her right eye symptoms relieved on third day post operation and the patient was discharged well. She was reviewed in ophthalmology clinic later and no further complication was noted.

#### **Discussion**

Corneal injury can occur attributed to factors such as direct trauma or effect of general anesthesia. Direct trauma may be from the surgeons, anesthetists or operating theater personnel belongings such as from

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the watches, identification badges or stethoscope.<sup>2</sup> A patient under general anesthesia will also be exposed to the corneal injury secondary to loss of pain perception, decreased or absent corneal reflex, inadequate closure of the eyelids and a decrease in the basal tear production.<sup>2-6</sup>

Our first case illustrated that the cornea was abraded most probably due to the retained foreign body, which was the eye lash. The patient's own eyelash had displaced into the corneal surface most probably during cleaning the face or before draping. As the full recovery of the anesthesia effect may take hours to make the patient fully aroused, the foreign body might have been indented on the corneal surface for few hours and injured the corneal once patients started to blink.

For the second case, the procedure done was left sphenoidotomy. In this procedure, as in the other sinus operations, the eyes must be left undraped to enable the surgeon to detect immediate complication that might happen to the orbit during the procedure. Thus, the eyes were exposed to the effect of dryness which can lead to corneal injury. Furthermore, using endoscope in this case requires the surgeon to rest the elbow on the forehead, usually on the right side.

There might be at some point the elbow incidentally slips on the orbit. Inadvertent instillation of skin preparation solution into the eye may also result in corneal injury.<sup>2</sup>

Management of corneal injury for both cases was by instillation of topical antibiotics and artificial tears without the eyes covered during the treatment. Traditional treatment of corneal abrasion is to cover the eyes because to prevent blinking that worsen the damaged cornea epithelium.<sup>1</sup> However, Kaiser in 1995 who led Corneal Abrasion Patching Study Group which was the largest study to evaluate the effect of patching in corneal abrasion cases showed that the rate of healing in both patched and unpatched group were almost similar especially for smaller abrasion (less than 10 mm<sup>2</sup>).<sup>7</sup> Hulbert also reported similar findings but the discomfort rate was higher in the patched group.<sup>8</sup>

Complication of corneal abrasion in patients under anesthesia can be minimized with simple procedures such as by taping the eyelid closely, soft contact lens and instillation of aqueous gels or paraffin-based ointments which are all effective but ointment are associated with morbidity.<sup>9</sup>

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