

Inducement of corneal abrasion due to contact lens.

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Introduction

Corneal abrasion is one of the most common and painful types of eye injuries. It happens when the integrity of the corneal epithelium is compromised or when the corneal surface is scraped away or denuded as a result of external physical stimuli. Corneal epithelial abrasions can range in size from minor to severe. Corneal abrasions normally heal quickly and with no long-term consequences. As a result, they are frequently dismissed as insignificant. Deep corneal involvement, on the other hand, can cause facet formation in the epithelium and scar formation in the stroma. Corneal abrasions can occur in any circumstance that compromises the epithelium. Corneal or epithelial illness, superficial corneal or ocular injuries, and contact lens wear are all examples. Spontaneous corneal abrasions have been linked to map-dot-fingerprint dystrophy and recurrent corneal abrasions [1].

A traumatic corneal abrasion is a type of corneal abrasion in which a defect in the epithelial surface is caused by mechanical damage to the eye. Foreign body-related abrasions are abnormalities in the corneal epithelium that develop after a foreign body is removed or dislodges spontaneously. Rust, wood, glass, plastic, fibreglass, or vegetable material-embedded in the cornea are the most common causes of foreign body abrasions. Abrasions in the corneal epithelium caused by the removal of an overwarm, inadequately fitting, or incorrectly cleaned contact lens are known as contact lens abrasions. The mechanical insult in these cases is caused by a foreign body that is associated with certain infections, rather than external damage [2].

Without an immediate antecedent injury or foreign body, spontaneous abnormalities in the corneal epithelium can emerge. This condition is more common in eyes that have had a past severe abrasion or have an underlying abnormality in the corneal epithelium. Slitlamp inspection and fluorescein instillation can confirm the diagnosis of corneal abrasion. Patients with abrasions from contact lenses are given prophylactic topical antibiotics to reduce the risk of infected corneal ulcers, although many emergency physicians have discontinued using these medications for mild injuries. Patching the eye is a common practise, but it has not been proven to be effective and should not be used in individuals who are at high risk of infection. Pain alleviation is critical. Corneal abrasions can be caused by contact lens-induced

epithelium abnormalities or direct damage during lens insertion or removal. Rigid lenses produce greater abrasions than other types of lenses, presumably due to their tiny diameter and the sharp corneal flaws they cause. Contact lens wearers may encounter a variety of difficulties, either directly caused by the lenses or exacerbated by them. Trauma, decreased corneal oxygenation, diminished corneal and conjunctival lubrication, stimulation of allergy and inflammatory reactions, and infection are all processes by which contact lenses cause changes [3].

Treatment: Antibiotic coverage with drugs sensitive to the offending bacteria is required for microbial keratitis treatment. Contact lens wear should be discontinued promptly. The severity of the corneal ulcer and whether it appears to be sight threatening determine the course of treatment. While culture and sensitivity data are awaited, vision-threatening corneal cultures and Gram stain should be conducted, and broad-spectrum antibiotics and cycloplegics should be started. Based on laboratory results and response to initial medication, treatment should be adjusted as needed. Vancomycin and fortified aminoglycosides (typically Tobramycin) are traditionally prescribed hourly. As wound healing improves, the infiltration shrinks, and the inflammatory response improves, the antimicrobial medicines are tapered. If the culture detects bacteria (*Nocardia*, Fungus, and *Acanthamoeba* are not responsive to steroids) and there is improvement in infiltrate size and epithelialization after 48 hours of vigorous anti-bacterial therapy, steroid drops may be attempted [4,5].

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