

Ocular Superglue Injury

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Introduction: Eye care and prevention of trauma are crucial to the specialized function of the eye.¹ Cyanoacrylate is the active component of Superglue.² It has various uses, from industry to surgery.^{3,4} Its widespread availability and re-package style have also increased its presence in homes.⁴ Commercially available cyanoacrylate appeared in 1958, and in the 1980s, ophthalmic ointment-style packs such as Do-It-Yourself (DIY) and acrylic nail kits became available.⁵ It is however, toxic and use of gloves, glasses and mask are recommended.⁶ Scenarios of injury include poorly sighted individuals who mis-identify prescribed treatment, well sighted persons who carelessly introduce it into the eyes, children at unsupervised play and more recently, assault.^{5,7-9} Commercial cyanoacrylate is more toxic than the formulation used in medicine.¹⁰ Chemically, cyanoacrylate is a monomer formed from condensation of formaldehyde and cyanoacetate, forming a solid bond in less than 2 minutes, in dry conditions.¹¹

Ocular injuries from cyanoacrylate mainly involve the external eye. Only dry surfaces, e.g. tarsal margin adhere together.⁸ On instillation, spontaneous blinking forces glue onto lid margins and lashes, with resultant adhesion. There is stinging or burning pain upon instillation, with loss of vision and resultant psychological distress. Eyelid skin excoriation, lash adhesion, lash loss, conjunctivitis, corneal abrasions with punctate erosions occur.^{8,12} There is however, no significant mechanical, chemical, thermal or toxic injury to ocular tissue.³ Primary treatment is reversal of acquired tarsorrhaphy, copious irrigation and use of wet patch.¹² The tarsorrhaphy spontaneously resolves in about a week. However, amblyopia risk in children and the distress for even adults may require early intervention.⁸ Secondary treatment includes care of ocular injuries along standard protocol; with appropriate treatment of corneal abrasion. Prognosis for visual recovery is excellent.⁵

Preventive measures include change in package style, using distinct colour and bold warning, simple modifications to opening caps, similar to child-proof safety mechanisms on toxic products.^{8,13} These are aimed against accidental instillation. This case report demonstrates this peculiar type of injury; with early surgical intervention and initial conservative measures producing a satisfactory visual outcome.

Case Report: Mrs. I.H., a 58-year-old housewife presented 2 hours after accidental instillation of Superglue to her left eye with sudden difficulty in parting her eyelids. Examination showed left acquired tarsorrhaphy involving the mid 2/3 of upper and lower lids (Figure 1). The right eye was normal. She had emergency copious irrigation with normal saline. Eyelash trimming and overnight saline gauze padding were done and thereafter, examination under anesthesia and surgical release of the adhered lid margins. A 5.0 x 5.0mm superficial corneal erosion was noted inferiorly. Topical moxifloxacin, nepafenac and



Figure 1: Left acquired tarsorrhaphy



Figure 2: Corneal Epithelial Defect observed during examination under anesthesia and surgical release of the adhered lid margins

chloramphenicol were commenced. Visual acuity on first post-op day was 6/6 in left eye and corneal erosion healed.

Conclusion: Our patient mis-identified her medication for superglue; a typical risk situation for ocular injury.^{8,14-15} Her early presentation was typical with characteristic external eye features as with documented cases.¹² Good resolution was consistent with previous reports.⁵ Mis-identification of medication, either by the partially sighted, or in packaging similar to innocuous domestic products remains a notable risk factor for Superglue injury.^{3,4,8} Prompt identification and treatment of this injury along standard protocol assures of complete resolution.

References

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