

Unusual Cradle Hook Injury with Full Thickness Upper Eyelid Loss on A 3 year Old Boy

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HOW TO CITE THIS ARTICLE:

Prajwal M., Saju Narayanan, Faraz Ali Mohammad, Basima Usman V.P. Unusual Cradle Hook Injury with Full Thickness Upper Eyelid Loss on A 3 year Old Boy. *J of Pla Sur and Trans.* 2025; 6(1): 07-11.

ABSTRACT

In India traumatic eye injuries remain the most common cause for monocular blindness in pediatric age group. Cradle hook ocular injuries itself remains rare but usually presents with simple eyelid laceration or skin avulsion. Injury involves a puncture wound when the hook pierces at a high velocity through the bulbar conjunctiva, either leaving a laceration over cornea or causing severe global injuries or even sparing the globe and involving the eyelids only. Other common modes of ocular injuries in paediatric age group are injury with wooden stick, metallic hook, fire crackers and sports related tools, but this can be associated with serious complications like corneal laceration, scleral perforation, traumatic cataract, vitreous hemorrhage and even retinal detachment. Even though we encounter total avulsion of eyelid with or without canalicular injury occasionally, we seldom visualize large segmental loss of tarsal plate or loss of full thickness upper eyelid in paediatric age group. Right eye and upper eyelid are affected more than left eye or lower eyelid respectively and majority involves full thickness injury. The eyelid and ocular adnexa often protects the globe and minimises the injury to globe. Eyelid injuries should be treated at the appropriate time as they can further result in anatomical as well as functional problems. Propitious repair through effective primary closure can prevent complications like entropion, ectropion, trichiasis, and epiphora. Here we encountered a very unusual presentation of ocular injury

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➤ Received: 30-01-2025 ➤ Accepted: 03-06-2025



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with loss of majority of upper eyelid skin and soft tissue following an accidental metallic cradle hook injury.

KEYWORDS

• Cradle Hook Injury • Soft Tissue Loss • Cuttlerbeard Flap

INTRODUCTION

Traumatic eye injuries remain the most common cause for monocular blindness in pediatric age group.¹ Cradle hook ocular injuries itself remains rare but usually presents with simple eyelid laceration or skin avulsion. But this can be associated with serious complications like corneal laceration, scleral perforation, traumatic cataract, vitreous hemorrhage and even retinal detachment.² Here we encountered a very unusual presentation of ocular injury with loss of majority of upper eyelid skin and soft tissue following an accidental metallic cradle hook injury.

CASE REPORT

3 year old boy was brought to the emergency department by his parents following an accidental avulsion injury to right upper eyelid (Figure 1). Initial evaluation suggested a full thickness loss of right upper eyelid with involvement of medial canthus. No scleral/corneal injuries identified on immediate intra op inspection. Medial 2/3 of full thickness upper eyelid tissue was found detached. The injury extended cranially breaching the lower border of right eyebrows. Tarsal plate anterior lamina was primarily sutured using 5.0 vicryl rapid sutures and skin using 7.0 PDS (Figure 2). On his post operative day 5 discoloration of entire sutured back skin tag was evident (Figure 3). On his POD 24 the necrosed skin shed off, the same day he was planned to undergo cuttlerbeard flap reconstruction (figure 4 & 5). With corneal protectors placed, 1.2cm lower eyelid skin was dissected in 2 layers and mobilized cranially to the defect and sutured using 6.0 vicryl stitches. He was reviewed thrice in our OPD before flap division procedure. Apart from the gaping over the medial aspect of flap inset, the flap was found healthy. After POD 32 the flap was divided and the gap was re sutured (Figure

6). No lagophthalmos was noted clinically even though his mother comments on noticing occasional nocturnal lagophthalmos (Figure 7 & 8).



Figure 1: Pre-OP Image



Figure 2: Post Primary repair



Figure 3: POD 7



Figure 4: POD 24



Figure 5: CBF stage 1



Figure 6: CBF stage 2 - division



Figure 7: 1 week post division



Figure 8: 2 weeks post division

DISCUSSION

Ocular trauma is a preventable risk for blindness which, can be salvaged by appropriate and timely interventions. Traumatic eyelid injuries in India are reported to be about 29.9%.³ These injuries can be isolated eyelid injuries or seen in association with open globe corneal injuries with or without canalicular injuries.⁴ Incidence is found to be higher in males compared to females.⁵

Common modes of ocular injuries in paediatric age group are injury with wooden stick, metallic hook, fire crackers and sports related tools.⁴ Injury involves a puncture wound when the hook pierces at a high velocity through the bulbar conjunctiva, either leaving a laceration over cornea or causing severe globe injuries or even sparing the globe and involving the eyelids only. As such, eyelid, ocular adnexa and orbit protects the globe and minimises the injury to globe. Right eye and upper eyelid are affected more than left eye or lower eyelid respectively and majority involves full thickness injury.³ Even though we encounter total avulsion of eyelid with or without canalicular injury occasionally, we seldom visualize this kind of large segmental loss of tarsal plate or loss of full thickness upper eyelid in paediatric age group.

Eyelid injuries should be treated at the appropriate time as they can further result in anatomical as well as functional problems. These may include lid deformities, Ocular surface disorders, and associated ocular damage⁶ Propititious repair through effective primary closure can prevent complications like entropion, ectropion, trichiasis, and epiphora.^{6,7} Delayed primary closure or poor tissue approximation can further reinforce complications.³

CONCLUSION

Even though most of the Cradle hook injuries end up in simple laceration of eyelid or even avulsion of skin flap. In paediatric age group we should also expect large segmental loss of tarsal plate or even loss of full thickness upper eyelid.

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