



MANAGEMENT OF LID LACERATION IN CHILDREN: CASE REPORT AND REVIEW OF LITERATURE

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ABSTRACT

Eyelid lacerations form a major bulk of the ocular trauma that is seen in accident and emergency department. These require well-planned and complex treatment to provide the best outcome and reduce the chances of post-operative complications. A 4 years old boy sustained injury to left eyelid with a bicycle chain. Post injury, he sustained left eye lower lid laceration. Patient was administered injectable antibiotics, painkiller, and tetanus toxoid injection. Thorough ocular and systemic examination was done. The laceration over the left lower eyelid was repaired. Patient was kept on antibiotic and eye drops. Proper reconstruction and strict postoperative care ensured a good recovery with acceptable aesthetic appearance.

KEYWORDS : Ocular trauma, Eyelid lacerations, Primary repair

INTRODUCTION

Eyelid lacerations refer to partial- or full-thickness defects in the eyelid and constitute a significant subset of facial trauma which is often accompanied by other ocular injuries including corneal abrasions, disruption of the lacrimal drainage system, foreign bodies, open globe, or orbital fractures.¹ The eyelids are involved in approximately 20% of facial lacerations in the pediatric patient population.² As lid damage may be associated with serious ocular injury not apparent on initial exam, lacerations or other injuries to lid structures should prompt a thorough investigation to exclude potentially serious underlying ocular pathology.³ Management of lid laceration warrants a holistic and comprehensive approach to achieve the best outcome and reduce the chances of post-operative complications.

Case Report

A 04 years old boy came to the emergency room with history of trauma to left eye with bicycle chain. Post injury the child had a linear 5 mm laceration in his lower lid with profuse bleeding, swelling and pain. The eye and face was inspected for any associated injury, the sites of injury were cleaned and copious irrigation of the eye was done. The wound was carefully inspected to identify tarsus and lid margin landmarks such as grey line, anterior lash line, and posterior margin. Any associated canalicular injury was ruled out. Complete eye and physical examination was done to look for presence of Foreign bodies, Tissue loss in eyelash, eyebrow and Lid margin. On clinical examination, the eye globe and the eye muscles were intact, the visual acuity was appropriate and X-ray imaging did not show associated skeleton damage. Detailed and meticulous slit lamp evaluation was done to look for microscopic hyphema, angle recession. Fundus evaluation was done to rule out any vitreous haemorrhage, Retinal detachment. He received local and systemic antibiotic therapy and tetanus prophylaxis. Under General Anaesthesia, the lower lid laceration was sutured with 5-0 vicryl after suturing the tarsal plate with 5-0 vicryl. Gentle tissue handling and proper alignment was done to achieve the best possible functional and cosmetic outcome. Post suturing and repair the patient was kept on injectables for 48 hrs and thereafter on antibiotics syrups with daily application of antibiotic ointment. Post-op day one the wound was inspected for any discharge, lid disinsertions, loose suture. The boy was called for follow-up after 07, 14 days. On 14 th day the lid margins were well apposed and wound site was healthy with no loose sutures or any discharge. The boy is kept on follow-up to look out for any post-operative complications like ectropion or entropion, step formation in the margin of eyelids and wound dehiscence.

DISCUSSION

Lid lacerations occur as a result of two general mechanisms

including (1) contact with sharp objects moving at high velocities that either penetrate superficial structures (skin, subcutaneous tissues) and result in a partial-thickness defect or that penetrate deeper structures (posterior layers, tarsus, conjunctiva) resulting in a full-thickness defect and (2) avulsion injuries from blunt trauma.⁴ Most injuries occur in children or young adults with dog bites, falls, handlebar injuries, and collisions with sharp objects being the most frequent cause of lid lacerations in children. Blunt trauma from fists, motor vehicle accidents and ball sports being the most frequent causes in adolescents and adults.⁵

Careful exploration of the wound and examination of the globe and adnexal structures is quintessential in any case of lid laceration. Direct closure whenever possible, even under tension as this affords the best functional and cosmetic results in lid repair.⁶ Always bear in mind that "Primary repair is the best repair." There are certain principles to be followed during lid repair surgeries. Copious irrigation and exploration of wounds with the removal of any foreign body. Reconstruction should be done in layers as per correct anatomical orientation. The wounds should not be extended to explore structures except in cases of suspected foreign body. If the orbital septum if damaged it should never be repaired, as this may result in compromised eyelid excursion and even lagophthalmos.

We should avoid suture incorporation of the septum during repair. The presence of orbital fat raises the risk of deeper injury and foreign bodies. In brow lacerations, eyebrows should never be shaved off as orientation of the brow hair will help us in correct approximation. Anterior lamellar defects not involving lid margin should be repaired by primary closure. If required, undermining of the surrounding skin was done to mobilize skin for adequate closure. Interrupted sutures with 6-0 vicryl may allow for hematoma egress or infection drainage. The deep tissues should be repaired first. Conjunctival lacerations of 5 mm or less often do not need to be repaired except in the case of symblepharon. Primary repair of the levator aponeurosis is done by repositioning it to the upper half of the tarsus with permanent 6-0 or 7-0 suture material. During surgical repair of lid lacerations, ensure that no knots or suture material can damage the cornea. Full-thickness lid margin lacerations, canalicular tears, canthal injuries, and lacerations with tissue loss are entities which should be meticulously tackled using specialized techniques.^{7,8} Canalicular injury should be suspected in all lacerations which are medial to the punctum. Complete loss of the lacrimal canaliculus with epiphora is a condition whose reconstruction often results in a poor outcome.⁹ We try to save all eyelid tissues, as high vascularity often allows for viable re-

approximation of partially avulsed ocular adnexal tissue. A broad-spectrum prophylactic antibiotic cover is preferred (such as amoxicillin-clavulanate or clindamycin for the penicillin-allergic). Tetanus prophylaxis may also be required. Lacerated wound of eyelid is a condition which should not be neglected as it may lead to other ocular disorders like Kerato- conjunctivitis, corneal ulcers etc. Complications of eyelid lacerations that do not involve the canalicular system include missed injury, infection, eyelid notching, irregular eyelid contour, lagophthalmos, exposure keratopathy, septal perforation, prolapse of orbital fat, corneal injury, shortening of eyelid fornices, wound dehiscence, entropion, trichiasis, and hemorrhage.^{10,11} A three layered suturing technique using an absorbable suture material is recommended to be carried out under regional analgesia in order to get encouraging results.



Figure 1: Pre-op Photo Of Lid Laceration



Fig 2: Post-op Day 1



Fig 3: Post-op Day 7



Fig 4: post-op Day 14

CONCLUSION

Traumatic laceration to the eyelid requires a thoughtful, well-planned approach in order to provide the best outcome and reduce the chances of postoperative complications. Prevention is accomplished by minimizing trauma to the face. Children should be supervised at home and at school, particularly when playing with dogs, sharp objects, or riding

bicycles.

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Statement Of Human And Animal Rights

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Statement Of Informed Consent

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