

Unusual Presentation of Retained Foreign Body in Ocular Adnexa of a 3-Year-Old Child

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ABSTRACT

Aim: To report an unusual presentation of retained safety pin in ocular adnexae of a 3 year old child. **Methods:** A case report. The patient presented within the hour of accident and surgical intervention followed immediately after preliminary investigations. **Results:** Under general anesthesia, entry site of foreign body was explored. The safety pin was surprisingly lodged sub tarsally in the matrix of firmly anchoring tenons. This was at variance to preoperative appearance of actual globe penetration. **Conclusion:** X-ray of the orbit confirmed by wound exploration correctly localized the foreign body.

Keywords: Foreign body, ocular adnexa, orbit, ocular trauma

INTRODUCTION

Eye injuries are a leading cause of monocular blindness in children, and often result in significant ocular morbidity.^[1] Studies have shown that children are disproportionately liable to severe ocular injuries occasioned by anatomic and functional impairment of the visual system.^[2,3] Circumstances of injury in younger children are different from those found in older children, the latter being similar to those reported for adults. The greatest number of eye injuries occur during playtime or sports activities, primarily attributable to falls and to free projectiles hitting the globe at high velocity.^[4,5]

Prevention as the optimum management of trauma remains a priority in order to reduce morbidity and costs. Schools have been identified as places for a pediatric eye injury.^[6] By continuing to increase teachers' awareness, supervision may improve and exposure of young children to potentially dangerous objects and

situations will be reduced. This task could be assigned also to family physicians and to pediatricians who probably represent the ideal educators for children and their parents.

This article reports summary of circumstances, ophthalmic intervention, and therapeutic outcome of an unusual case of retained ocular adnexal foreign body (FB) in a pediatric patient.

CASE REPORT

A 3-year-old presented with 2 hours history of a safety pin stuck into the left eye. The pin was mistakenly thrust into the eye by another 3-year-old girl while playing on the field within the school premises. No attempt was made to forcefully remove it by the teacher or the child. The parents who were immediately alerted brought the child to our facility. There was history of bleeding which could not be estimated. There was no loss of consciousness, however. No history of previous ocular trauma, use of glasses or eye surgery. Examination showed equal visual acuity (VA) of at least 6/60 in each eye (actual VA hampered by the child's literacy level). There was full range of ocular movements except inferiorly in the affected eye. There was no crepitus or any discharge from the orbit. The lids were intact but there was a local conjunctival hyperemia and

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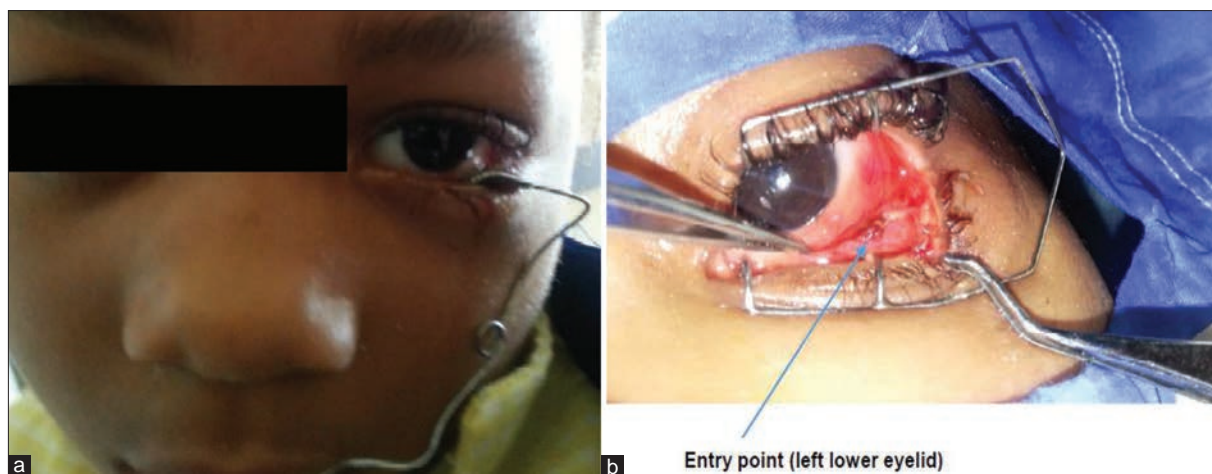


Figure 1: (a and b) Retained orbital foreign body (safety pin)

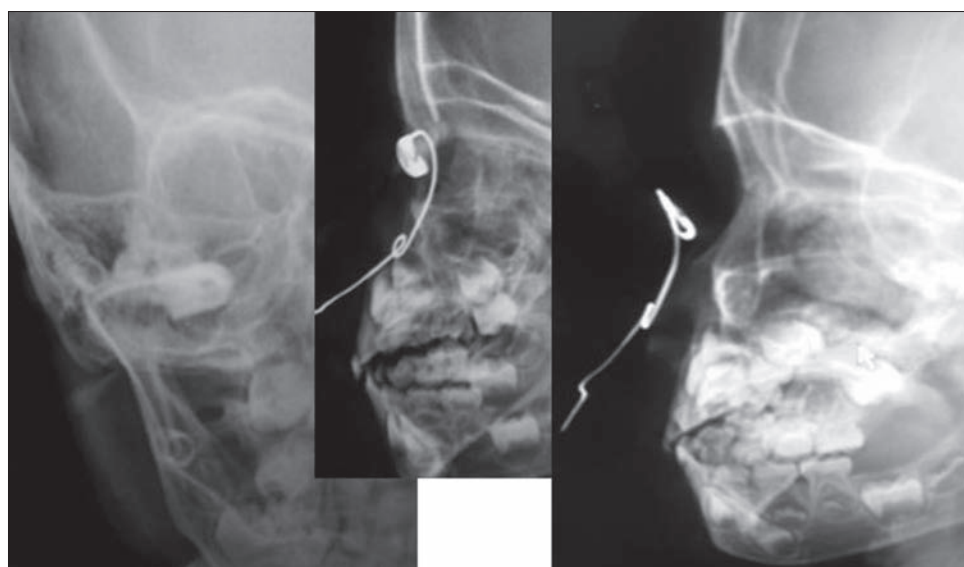


Figure 2: Left orbital X-ray: A-P, lateral and tangential views respectively

minimal subconjunctival hemorrhage. There was a protruding safety pin apparently emerging from the orbit but resting on lateral third of the left lower lid down to the cheek [Figures 1a and b]. Pupillary reactions were normal, and there were no signs suggestive of perforating eye injury. Other parts of the eye were normal. The diagnosis was retained left orbital foreign body. Orbital X-ray: Anterio-posterior, lateral and tangential views were ordered [Figure 2]. These views ruled out ocular penetration of the pin, most clearly demonstrated by tangential view. The patient had examination under general anesthesia. The area of ocular penetration was explored and the pin carefully removed from where it was lodged subtarsally through firmly anchoring tenons. A minimal peritomy was done around the inferior fornix in the entry point of FB to rule out actual globe penetration. The sclerocorneal coat was not breached. Intraocular pressure was 16 mmHg in both

eyes. Funduscopy through the dilated pupils was also normal.

Patient had tetanus toxoid, intravenous and topical antibiotics. First day postoperatively, patient regained full range of ocular movements with satisfactory vision same as the unaffected eye. On her visit, 1 week after injury, lid swelling had completely resolved.

DISCUSSION

Ocular trauma among pediatric age group is common with higher male preponderance largely from more outdoor activities and hazardous adventures.^[7-9] Our index case occurred in a girl, another girl of the same age being the cause of the trauma. This is not surprising as girls are more likely to play with fellow girls. Various objects have been reported to cause ocular injuries in children; elastic cords,^[5] baseball and softball,^[10] pogs

and slammers,^[11] toys, and fireworks. Safety pin as a cause of ocular injury is not common and our case appears to be one of such rare occurrences.

The clinical findings in our patient concurred with the history and what appears to be the mechanism of injury. The globe was spared by the FB probably from the feeble thrust of the 3-year-old girl. Again the blunt end of the safety pin was the part introduced into the eye. It seems likely that the injured girl was looking up when the object was thrust into the eye explaining the non-involvement of the globe. On cursory examination, one may conclude the FB was in the orbit, however on tangential view with orbital X-ray, it became obvious the globe was spared. Multiple views of orbital X-rays appear informative in situations where expensive investigations like CT-scan for FB localization are not available. This is more relevant in our resource-limited economy where access to modern radiologic facilities are limited, and where available, are prohibitively expensive.

The visual outcome of our patient was good because of prompt medical and surgical interventions, and the fact that there was no ocular penetration. Coody *et al.*^[12] had observed that appropriate and swift management of eye trauma is essential to ensuring optimal outcome for the child. Increased awareness of child safety, better trauma management in the form of surgical techniques and medical treatments, changing mechanisms of injury, with more blunt trauma and fewer penetrating injuries than seen previously have also been linked to the good visual outcome of pediatric eye trauma.^[13]

For all kinds of ocular injuries, prevention is the primary goal. Parents and teachers have the responsibility to instruct children about the potentially devastating nature of sharp objects and to keep them out of children's reach to reduce the risk of their misuse.

We conclude that pediatric eye injuries are preventable, and that the implementation of well-established safety precautions and legislation would greatly reduce visual disability from ocular trauma. Schools should engage the services of more assistant teachers especially for the playgroup classes for more effective supervision.

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