

## PENETRATING ORBITO-CRANIAL AND OCULAR COW- HORN INJURIES

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### ABSTRACT

Cow horn eye injuries are not common but are devastating causes of unioocular blindness amongst young active population. Early and appropriate intervention can save the life of the patient depending on the severity of the injury. This uncommon cause of unilateral visual loss can be prevented if slaughtering of cows are done by trained and appropriately equipped personnel.

**Keywords:** Cow-horn, orbitocranial, penetrating injuries, unioocular blindness.

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#### INTRODUCTION

Trauma is the commonest cause of unioocular blindness amongst young adults<sup>1,3</sup>. The types of eye injuries resulting in unioocular blindness are commonly penetrating and perforating injuries<sup>1,3</sup>. These injuries result from such activities like playing, travels, assault, work place and agricultural accidents. Some of the causes of unioocular blindness are avoidable. The factors that affect the outcome of the eye injuries include agent and severity of injury, time of presentation and intervention and availability of appropriate medical facilities. Communal clashes and wars rank high in the causes of unioocular blindness amongst young adults especially males<sup>1,4</sup>. Occupation related ocular injuries occur more when the appropriate protective measures are neglected. This is manifested in the two cases of cow horn injuries being presented

#### CASE REPORT

##### Case 1

A 19 year old boy, a seminarian, C.E. Hospital Number 00057515, was seen with a three-day history of sudden loss of vision in the left eye due to a cow horn injury. He was referred by a general medical practitioner. There was associated loss of consciousness at the time of injury. Vomiting and seizures occurred when he regained consciousness after a few hours. The injury occurred while he was positioning the cow for slaughter in company of four other students. The injury occurred when the patient was trying to position the cow for slaughter and the cow was struggling. The struggling cow poked the

patient in the left eye with the tip of his right horn. On examination, he was found to be well orientated with normal vital signs. The injured left eye was heavily bandaged with dressings totally soaked with blood. Ocular examination showed a normal right eye with a Visual Acuity (VA) of 6/6. Visual Acuity in the left eye was No Perception of Light (NPL). Detailed examination of the left eye was not possible due to marked tenderness.

The following investigations were done Full Blood Count (FBC), retroviral screening and skull X-ray. The Full Blood Count was essentially normal and the retroviral screening negative. The skull X-ray showed fracture of the roof of the orbit/sphenoid bone.

Examination under anaesthesia showed lacerated upper and lower left eyelids, already sutured. The left eyeball was proptosed and laterally displaced. The globe and orbit were very tense and the conjunctival blood vessels very visibly pulsatile. Conjunctiva was lacerated and chemosed. A loose piece of orbital bone was in the lower fornix. The cornea was hazy and anterior chamber had a total hyphaema. A temporal perforation of the globe 2mm by 3mm posterior to the equator was seen. A clinical diagnosis of left orbital and ocular penetrating injury was made and a fracture of the orbital bone was suspected. The treatment instituted included :

- i. Oral Ciprofloxacin 500mg bid
- ii. \* Oral Metronidazole 400mg tds
- iii. Gentamycin (fortified) Eye drops 6 hourly
- iv. Naxen tablets 250mg bid

A request for a computerized Tomography of the brain was made and the patient was referred to a Neurosurgeon. The CT Scan showed bifrontal brain contusion and fracture of left orbital roof. Patient had

a craniotomy, elevation of the orbital roof communitated fracture and duroplasty. The left eye was enucleated. He was continued on systemic and topical antibiotics postoperatively. Epanutin tablets 100mg was administered for 6 weeks. He was discharged after 2 weeks. Post operative period remained uneventful till date 4 months after the injury. He was fitted with ocular prosthesis after three months.

### Case 2

An 18 year old boy was seen in the clinic about 7 hours of cow horn injury and visual loss of the left eye. He is a butcher by occupation. The injury was sustained while trying to slaughter a cow with two other colleagues. The patient was poked in the left eye by the cow's right horn when he lost grip of the horn in an attempt to put a knife to the cow's throat with his right hand. He drinks alcoholic moderately, smokes cigarettes and Marijuana but did not take any in the morning of the injury. On sustaining the injury, he was almost immediately rushed to a nearby private hospital where he received a first aid treatment and then referred to us. There was no associated loss of consciousness following the injury. He was fully conscious and well oriented in place, person and time. The injury was limited to the left eye with a Visual Acuity of No Light Perception (NPL). The right eye was essentially normal with a VA of 6/6. The left upper lid had a ragged laceration and the eyeball was ruptured and partially collapsed with extrusion of ocular contents (uvea and vitreous). He was admitted and placed on Paracetamol, Ciprofloxacin, Metronidazole, Gentamicin and Anti-tetanus treatment. Investigations done included Skull/Orbital X-ray, Full Blood Count and Retroviral Screening. The skull/orbital X-ray showed no fracture. The lacerated lid was repaired and the ruptured globe was eviserated after counseling and informed consent obtained. The post-op period was uneventful and he was discharged on the third day post-op. He was followed up post-op but was lost to follow-up after 2 months.

### DISCUSSION

Ocular injuries are more common amongst the young and active population, more in males than females<sup>4,5</sup>. Ocular injuries characteristically cause uniocular blindness and therefore do not feature in blindness prevalence data<sup>6</sup>. In the two cases presented the injuries specifically affected the eye sparing every other part of the body. Eye injuries occur without warning and may be trivial or serious as in the two cases presented. Repair of grave eye

injury is never without a lasting complication, prevention is certainly better than cure. In ocular injuries Time of presentation and intervention are important prognostic factors. The two cases showed early presentation and intervention.

This affected the outcome of the injuries by the patient's lives being saved. For eye injuries referrals should be done without unnecessary delay. Appropriate intervention equally needs to be timely. Enucleation of badly traumatized eye needs to be done within two weeks of injury to prevent sympathetic ophthalmia. The outcome of eye injuries can be very grave. Early intervention and appropriate treatment saved the lives of these two patients, but the eyes were lost because the injuries were very severe. Unfortunately uniocular blindness occurs at an active stage of life<sup>1,4</sup>, as in the two cases presented.

The type of injury is equally prognostic. Penetrating and Perforating injuries commonly results from assaults agricultural and road traffic accidents<sup>7,8</sup>. The two presented cases are due to uncommon causes of ocular injuries. Occupational injuries occur when protective actions are not taken or when workers are not well trained for the job. In the two cases presented the patient in Case 1 is neither protectively nor adequately equipped nor trained for the job. In Case 2, the appropriate protective wears or gadgets were not in use though he is a butcher and has been in the job for more than 5 years. Cow horn eye injuries can be prevented if the cows are slaughtered in abattoirs and by trained hands.

### RECOMMENDATIONS

1. Butchers and members of the public should be made aware of the dangers of cow horn injuries through the mass media.
2. There should be an advocate by the policy makers that cows should be slaughtered in government approved abattoirs and by trained personnel.
3. Health education of the public on protective measures against eye injuries and appropriate action in case of injury to the eyes.

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