

## Case Report

# Ocular Trauma Management with Evisceration Surgical Technique - A Case Report

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### ABSTRACT

*The eye is an important sensory organ and a vital structure for the facial expressions. Loss of sight in either or both eyes can lead to disturbance to person's social, physical and psychological health. The aim of an ophthalmic surgeon is to protect the sight at the earliest by rapid diagnosis by deciding the choice of investigations and operative procedure to restrict any further damage including infection to other structures and to prevent subsequent complications. The objective of this report is to study the requirement of evisceration surgical procedure in management of a case of ocular trauma.*

**KEYWORDS:** : Evisceration, Ocular trauma, Facial injury

### INTRODUCTION

The Eyes are “window to the soul”. Blindness is the most serious complication following incidents of ocular trauma. The estimation of World Health Organization (WHO) showed that there are about 27 to 35 million people with blindness all over the world today. If the criterion be extended to the visual acuity of 20/200 or worse, the estimate goes to around 42 million.<sup>1</sup>

The orbit, that contains the eyeball is made up of bony walls, i.e. a roof, lateral wall, floor, and medial wall.<sup>2,3</sup> Along with, the intraconal and extraconal orbital fat provides an extra protection from the trauma/injury and displacement of the globe.<sup>4,5</sup>

The blindness can result from the trauma caused from direct injury to the eyeball or to the optic nerve by small fractured bony fragments; and from indirect injury to the optic nerve.<sup>6</sup>

**DIRECT EYEBALL INJURY:** It is classified into 'Open type' or 'Closed type' injury.

**Open type injury:** This type of injury involves the full thickness corneal rupture and can be the result of blunt trauma causing rupture of the eyeball, or from the sharp objects causing laceration or perforation, with or without foreign body entrained in the eyeball.<sup>7</sup>

**Closed type injury:** This type of injury may not involve the total thickness of corneal rupture, but may include superficial lamellar laceration, foreign body, and contusion of the eyeball.<sup>6</sup>

Both, open and closed type injuries can present similar type eyelid injuries and subconjunctival haemorrhage. These situations are very serious and can complicate an ophthalmologist for rapid diagnosis and decision making in management of the injury.<sup>6</sup>

This paper reports a case of 67 years old female patient with traumatic extrusion of lens and other intraocular structures of the left eye managed by evisceration of left globe with silicon motility implant.

## CASE PRESENTATION

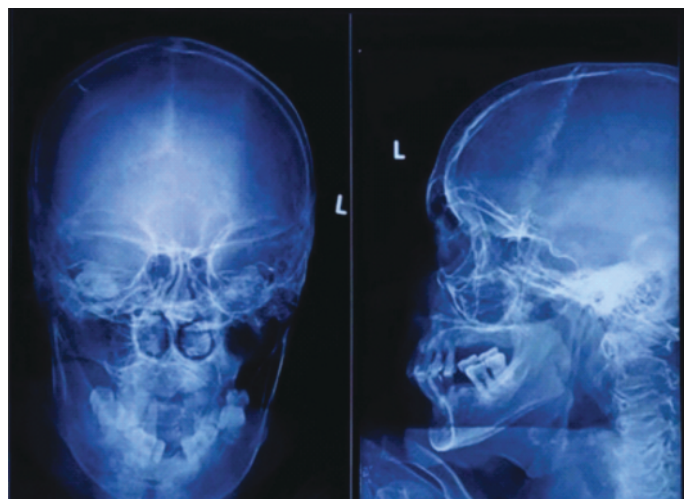
A previously healthy 67 years old female belongs to rural area presented to the Emergency Department with complaint of pain in the right hip and loss of vision in the left eye for last 10 days when, according to the patient, she had a fall by self while going to the washroom and got hit by some household object to the left eye. She reported no loss of consciousness and denied of nausea, nose bleed or vomiting episode. Her past medical history and family history were not significant. The patient had a prior history of diminution of vision of both eyes for which she did not consult any ophthalmologist. She did not have any history of previous ocular injuries, ocular disease, or prior ocular surgeries.

In the Emergency department, she was orient, awake, responding to the questions, and following commands with a GCS of 15. Her complaint was pain in the right hip and loss of vision in the left eye. Her vital signs were as follows: temperature 98.6°F, pulse rate 96 beats/min and regular; respiratory rate 20 breaths/min, blood pressure 110/72 mmHg, and oxygen saturation 99% on room air. Relevant investigations have been done, from which Intertrochanteric fracture of right femur has been observed on the X-Ray films. Patient has been transferred to Orthopaedic surgical ward for further management and Ophthalmological opinion had been called.



**Figure 1:** Pre-operative clinical picture of the patient.

The Ophthalmological examination of the Right eye observed no significant finding and the Left eye examination revealed a minor abrasion over the left eyelid, a full thickness corneal tear with sharp edges, iris prolapse, lens extrusion outside the globe; along with other intraocular structures (retina and choroid) into the anterior chamber. The examination also revealed the presence of hypopyon in the anterior chamber. There was no perception of light in the left eye. During examinations, the blood also started oozing out of the left eye. On radiological investigations, X-Ray Orbit AP/Lateral



**Fig.2:** Pre-operative X-Rays AP and Lateral views

views revealed no significant abnormality in visualised bony structures.

On computed tomography scan, the focal out bulging along the posterior wall of left globe along with soft tissue edema with air foci was observed in left periorbital region. A 15x22x14 mm sized well defined soft tissue density mass arising from the posteromedial wall of left orbit was also observed.

The haematological investigations showed anaemia (hemoglobin was 9.5 g/dL), however, no any other abnormalities or any systemic illness had been detected. During examinations, the blood also started oozing out the left eye. The pathological features included inflammation involving the anterior and posterior segments and the presence of exudates rich in white blood cells and pus cells.

Prior to further intervention, a number of issues needed to be considered in consultation with the patient and the relatives, principally about the loss of the eyesight, and the risk of spread of infection and sympathetic ophthalmia. The patient was then taken to the operating room for surgical intervention and taken to multidisciplinary observations. The 'evisceration surgery of the left globe with intraocular silicon motility implant' was planned and had been done after an informed consent form signed by the patient and the relatives.

## DISCUSSION

In this paper we have discussed about an uncommon case of trauma to the left globe that has been left untreated for few days due to patient's negligence. It has been hypothesised that the partial thickness lamellar corneal tear, when untreated, converted into a full thickness corneal tear, which extrapolated the capability of all protective anatomical mechanisms of the globe, resulted into extrusion of the lens outside the globe and other intraocular structures into the anterior chamber with the formation of hypopyon.<sup>8</sup>

The surgical approach in such globe injuries can be very controversial. The management of globe injuries depend largely on whether the injury is open-type or closed-type. A thick dressing should be placed on the affected eye to prevent any attempts to scrub the wound with the hand, especially in children.<sup>9</sup>

Evisceration includes the removal of the intraocular structures, leaving behind the conjunctiva, sclera, extraocular muscles, orbital fat and the optic nerve, which is done through a corneal or scleral tunnel. This surgery have been accepted as therapeutic technique to treat various ocular conditions which include intraocular tumors, severe ocular trauma and blind, painful or cosmetically disfiguring eyes over the last two centuries.<sup>10,11</sup>

### CONCLUSION

Ocular trauma and other surgical diseases resulting into painful blind eye and atrophía / phthisis bulbi are most common indications for ocular evisceration. The primary focus of surgeon should always be on preserving the globe, whenever possible. Although the globe has several anatomical protective mechanisms, sometimes they fail, and management requires evisceration. However, the choice of procedure in management of ocular trauma requires an active discussion with the patient, considering risks and benefits of each procedure.

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**CONFLICTS OF INTEREST:** None

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