

# Vitreotomy for Ocular Trauma



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## Evaluation of the Patient Following Ocular Trauma

### ■ History:

How to expect posterior segment affection ?

### ■ Examination:

- Avoid more damage
- Under anesthesia
- VA - IOP - APD
- Ant. Segment (entry site)
- Fundus

### ■ Investigations:

- B-scan (when ?)
- CT
- MRI : wood and certain types of plastic



# Remember

An eye with **minimal or no anterior damage** may have a **severe posterior injury**.



## Indications of Vitrectomy in Ocular Trauma

- Vitreous Hemorrhage
- Retinal tears or detachment
- Dislocated lens
- Tractional RD
- Posttraumatic Macular Hole
- Intraocular Foreign Bodies
- Posttraumatic Endophthalmitis



## Benefits of Vitrectomy

- Reconstruction of the posterior segment
- Clears vitreous opacities
- Controls the healing process & decreases the incidence of tractional RD
- Prevents endophthalmitis

## Timing of Vitrectomy

(Controversy)

**Early  
Vitrectomy**

(within 2d)

**Delayed  
Vitrectomy**

(7-14d)



## Timing of Vitrectomy

- Have very little effect on the final outcome and the final VA is determined by the type and extent of trauma.
- **In earlier vitrectomy**, we could have higher risk of intraoperative complications
- **In late vitrectomy**, there is higher incidence and severity of postoperative complications such as PVR

**Primary wound closure  
should not be delayed**



## Immediate vitrectomy

- **Indication**: endophthalmitis or IOFB with high risk of infection.
- **Advantages**: decreases the chance of PVR and retinal tears.
- **Disadvantages**: higher rate of bleeding, wound leakage and increased difficulty to detach the posterior hyaloids

## Delayed vitrectomy

- **Indications** : choroidal hemorrhage and large posterior wound in perforating globe injuries
- **Aim:**
  1. To decrease the risk of intraoperative hemorrhage in acutely inflamed and congested eyes
  2. To allow the cornea to clear and improve intraoperative visualization
  3. To permit spontaneous PVD

## Eye Injury Vitrectomy Study (EIVS)

- EIVS : the epidemiology and prognosis of severe eye injury with intervention of vitreoretinal surgery.
- Favorable outcome is defined as anatomically restored eye whose final BCVA is 4/200 or better after 6 months of follow-up.
- 4:1 ratio of boys to girls.
- Closed globe injuries account for 13.5%

# EIVS

- No difference in the outcomes of closed and open-globe injuries.
- **Predictive factors of unfavorable outcome:**
  1. Choroidal damage
  2. Large scleral wound
  3. Endophthalmitis
  4. Afferent pupillary defect
  5. Zone of injury
- not associated with the timing of vitrectomy.

## The Problem of Visualization

1. **Temporary keratoprosthesis.**
2. **Endoscopy**
  - Endoscopy allows earlier diagnosis and treatment of occult pathology and requires less time and fewer procedures to implement than the temporary keratoprosthesis.

# Case 1

Corneal laceration, Traumatic  
Cataract and IOFB



## Case 2

### Traumatic Posteriorly Dislocated lens





## Case 3

### Traumatic Endophthalmitis (Neglected Rupture Globe)



