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Research Paper

Assessment of Prognostic Factors for Visual Outcome in Traumatic Cataract

Medical Science

KEYWORDS : Traumatic cataract,open globe and close globe injuries,USG,UBM,cornealscar,ir regular astigmatism.

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ABSTRACT

To assess the visual outcome of traumatic cataracts and the factors for visual prognosis in cases of ocular trauma at a tertiary eye care centre.Aprospective study was conducted at a tertiary eye care centre from July 2012 to May 2014 comprising 50 eyes of 49 patients with all types of ocular trauma causing cataract.All patients underwent complete ophthalmological examination including USG and UBM whenever appropriate.Various surgical procedures were performed for visual recovery.BCVA and time from injury to complete recovery were noted.Favourable visual acuity was cosidered to be ≥6/18.

Young Males were more commonly affected than females; wooden material was the most common object causing injury.58% patients achieved favourable outcome which was independent of age,type of operative procedure and time from injury to recovery.Open globe injuries were 2 times more likely to achieve favourable outcome.Commonest structure affected by trauma apart from lens was cornea and so the fact that corneal scar and irregular astigmatism were the commonest causes for suboptimal post-operative visualrecovery.

Introduction: Ocular trauma-a major cause of monocular visual impairment.The socioeconomic, physical and psychological impact of ocular trauma cannot be overlooked as ocular injuries are more common in younger productive people of society.The management of cataract poses challenges in the setting of ocular trauma.So assessment of prognostic factors are very helpful in explaining visual recovery to patients.

Literature Review: Traumatic cataracts occur secondary to blunt or penetrating ocular trauma. Infrared energy (glass-blower's cataract), electric shock, and ionizing radiation are other rare causes of traumatic cataracts.Cataracts caused by blunt trauma classically form stellate- or rosette-shaped posterior axial opacities that may be stable or progressive, whereas penetrating trauma with disruption of the lens capsule forms cortical changes that may remain focal if small or may progress rapidly to total cortical opacification. Lens dislocation and subluxation are commonly found in conjunction with traumatic cataract. Other associated complications include phacolytic, phacomorphic, pupillary block, and angle-recession glaucoma; phacoanaphylactic uveitis; retinal detachment; choroidal rupture; hyphema; retrobulbar hemorrhage; traumatic optic neuropathy; and globe rupture.

Traumatic cataract can present many medical and surgical challenges to the ophthalmologist. Careful examination and a management plan can simplify these difficult cases and provide the best possible outcome. Approximately 2.5 million eye injuries occur annually.It is estimated that approximately 4-5% of a comprehensive ophthalmologist's patients are seen secondary to ocular injury. Traumatic cataract may present as acute, subacute, or late sequela of ocular trauma. Trauma is the leading cause of monocular blindness in people younger than 45 years. Annually, approximately 50,000 people are left unable to read newsprint as a result of ocular trauma. Only 85% patients who experience anterior segment injury reach a final visual acuity of 20/40 or better, whereas only 40% patients with posterior segment injury reach this level.

Planning the surgical approach is of the utmost importance in cases of traumatic cataract. Preoperative capsular integrity and zonular stability should be evaluated.

In cases of posterior dislocation without glaucoma, inflammation, or visual obstruction, surgery may be avoided.

Standard phacoemulsification may be performed if the lens capsule is intact and sufficient zonular support remains.

Intracapsular cataract extraction is required in cases of anterior dislocation or extreme zonular instability. Anterior dislocation of the lens into the anterior chamber requires emergency surgery for its removal, as it can cause pupillary block glaucoma.

Pars plana lensectomy and vitrectomy may be best in cases of posterior capsular rupture, posterior dislocation, or extreme zonular instability.

- **Methods:** A prospective study was conducted at a tertiary eye care centre from July 2012 to May 2014 comprising 50 eyes of 49 patients with all types of ocular trauma causing cataract.

Inclusion Criteria: All patients of ocular trauma in whom trauma was direct cause of accelerated cataractogenesis

Exclusion Criteria:

1) Pre-verbal children and patients unco-operative for visual acuity assessment on snellen's chart
2) Patients with severe systemic injuries.

All patients underwent complete ophthalmological examination including USG and UBM whenever appropriate,Various surgical procedures were performed for visual recovery.BCVA and time from injury to complete recovery were noted,Favourable visual acuity was cosidered to be ≥6/18.

Results & Discussion:

Age Distribution

Age(Years)	No.of patients	Percentage
5-15	14	28.0
15-25	9	18.0
25-35	9	18.0
35-45	4	8.0
45-55	10	20.0
55-65	4	8.0
Total	50	100.0

Mean Age-28 Years

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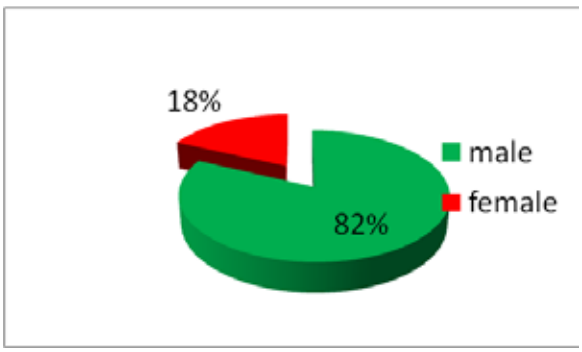
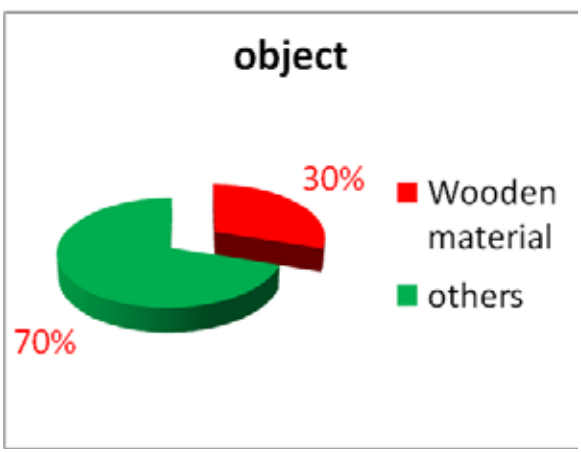
Gender Distribution



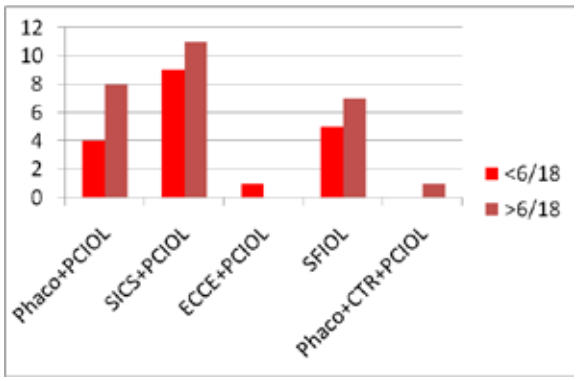
Mode of Injury



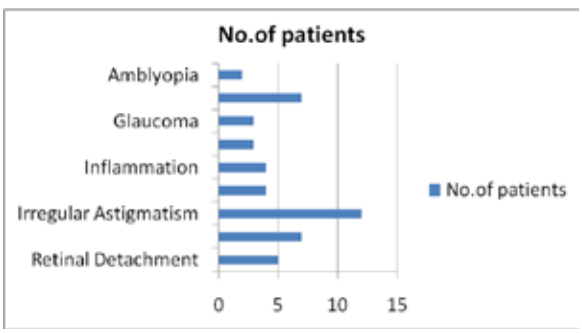
Other Structures Involved

Trauma to other structures	No.of patients
Cornea	29
Sclera	3
Retina	13
Vitreous	8
Iris	1
Choroid	2
Zonules	10
Angle,Ciliary Body	2

Surgical Procedures Performed



Factors responsible for poor visual recovery



Role of USG & UBM

- 14% patients were found to have retinal detachment
- 4% were found to have posterior capsule rent
- 12% patients had zonular weakness

Conclusion:

- Ocular trauma and traumatic cataracts affect young and productive population of society
- Males > Females
- A wooden material - most common object causing injury
- USG & UBM play a vital role in diagnosing concomitant effects of trauma,explaining prognosis to patient and in guiding management of each case
- 58% patients achieved favourable outcome which was independent of age,type of operative procedure and time from injury to recovery
- Open globe injuries were 2 times more likely to achieve favourable outcome
- Commonest structure affected by trauma apart from lens was cornea and so the fact that corneal scar and irregular astigmatism were the commonest causes for suboptimal post-operative recovery

REFERENCE

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