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"Study of Visual Outcomes after Blunt Trauma"

Dr. DIVYA CH [1]Dr.RAVI KIRAN P [2]
Post graduate[1], Professor[2], Department of Ophthalmology, DR.PSIMS& RF, INDIA

ABSTRACT
Background:Trauma can result in wide spectrum of eye injury of the globe, optic nerve and adnexa ranging from superficial to vision threatening complications. Blindness has regularly been found the most feared of all disabilities.Ocular trauma is a preventable public health problem throughout the world.It is one of the common causes of ophthalmic morbidity and monocular blindness in all parts of the world.In India reported incidence of ocular trauma varies from 1 to 5%. The global annual incidence of ocular trauma is around 55 million of which 7,50,000 cases require hospital admission every year.The objective was to study various clinical presentations and visual outcome after blunt trauma. Methods: A cross-sectional study was done among 100 patients who came to the ophthalmology OPD with history of blunt trauma. Initial examination included visual acuity measurement by SNELLENS CHART, colour vision by ishihara chart, anterior segment examination by slit lamp biomicroscopy ,intraocular pressure done by schiotz or applanation tonometry, Gonioscopy done in required cases and fundus examination done with indirect ophthalmoscopy. Investigations like X-ray orbit, computerized tomography scan, B mode ultrasonography were done in appropriate cases.RESULTS: In our study males were affected more than females. In our study most common presentation werecorneal abrasion,SCH ,corneal edema , traumatic mydriasis . Majority of the patients presented with 6/9 to 6/36 85%, 6/60 or worse in 15%.
CONCLUSION: *Blunt trauma was common in males. More number of blunt injuries are due to road trafficaccidents. Others injury while playing wooden stick,stone. Visual outcome of trauma has improveddue to proper supervision and follow up along withhandling of complications after trauma whichmay cause maculopathy, macular hole, commotion retina, traumatic choroidal rupture.*
KEYWORDS: *Trauma, visual impairment , visual acuity ,corneal abrasion , protection , follow up.*

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I. INTRODUCTION

Blunt ocular trauma can result in various eye injuries.[1]The mode of injury can be direct injury to the eyeball or accidental blunt trauma. Trauma can result in wide spectrum of eye injury of the globe, optic nerve and adnexa ranging from superficial to vision threatening complications. Blindness has regularly been found the most feared of all disabilities. Ocular trauma is a preventable public health problem throughout the world. It is one of the common causes of ophthalmic morbidity and monocular blindness in all parts of the world. In India incidence of ocular trauma varies from 1 to 5%. The global annual incidence of ocular trauma is around 55 million of which 7,50,000 cases require hospital admission every year. [2]Incidence of ocular trauma increased due to personal transport. The Majority of these injuries are sustained by active and productive individuals unfortunately, these injuries may all be often vision threatening and the life style and future of these injured individuals are altered.

II. MATERIAL AND METHODS

This study was carried out at tertiary care hospital in a rural area of coastal Andhra Pradesh. It was a prospective, cross – sectional study. Study done for a period of 12 months. a total of 100 patients were included in the study attending to ophthalmology OPD and ER with history of blunt ocular trauma.
In clinical examination the following were tested

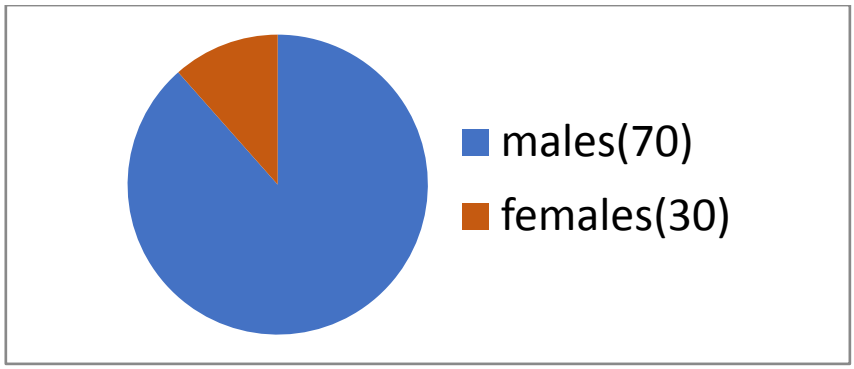
- A detailed history was taken to know the mode of injury and duration between injury and presentation.
- visual acuity - Snellen's chart
- Anterior segment examination - slit lamp biomicroscopy.
- Intraocular pressure recording - Schiotz tonometer/Applanation tonometer.
- Gonioscopy done in appropriate cases.
- Posterior segment examination - Direct and indirect ophthalmoscope
- Investigations like X-ray orbit, computerized tomography scan, B mode ultrasonography were done in appropriate cases

Inclusion criteria:
Patients with
- Definite history of blunt ocular trauma
- All age groups.

Exclusion criteria:
Patients with history of
- Penetrating ocular injury
- Orbital injuries involving fractures

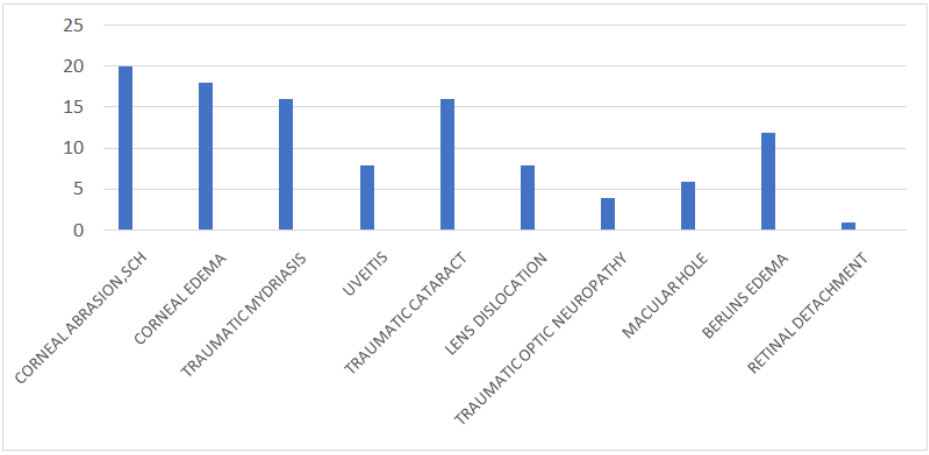
III. RESULTS

Gender distribution in blunt ocular trauma
Out of 100 patientsmales constitute 70 % females constitute 30%. Males to females ratio was approximately 2:1.

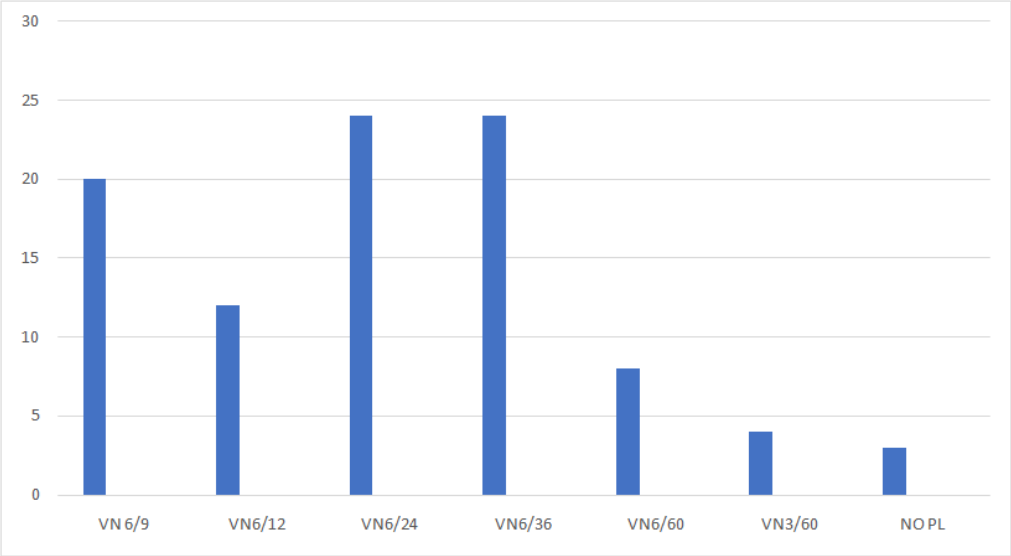


Clinical presentations after blunt trauma
Most common presentation corneal abrasion , SCH 20%, corneal edema 18%

S.NO	CLINICAL PRSENTATION	NO OF PATIENTS
1.	Corneal abrasion, SCH	20 %
2.	Corneal edema	18%
3	Traumatic mydriasis	16%
4	Traumatic uveitis	8%
5	Traumatic lens dislocation	8%
6	Traumatic cataract	8 %
7	Optic neuropathy	4 %
8	Macular hole	6%
9 10	Berlins edema Retinal detachment	12% 2%



Vision following blunt ocular trauma



IV. DISCUSSION:

The present study on 100 patients with blunt injury to the eye included patients with trivial to gross external injuries, with mild to gross visual loss. In our study there were 70%males and 30% females. Incidence of blunt trauma was more in Male due to increased exposure of men to Road traffic accidents and work place accidents. According to Jain BS et al incidence was 69.3% in males and30.7% in females.[3] According to jawade study males to female ratio is 2:1.[4]According to study carried out by Misra S et al has recorded the percentage of 71.67% as males and 28.3% as females suffering from blunt ocular trauma.[5]Assault and motor vehicle injuries are usually the most severe and cause severe ocular damage.[6]Ocular trauma is the most important preventive cause of blindness or partial loss of vision in more than half a million people worldwide, the commonest victim are young men.[7]

In our study age group in which blunt trauma to eye was common was 20 to 40years.This is probably due to increased work-related exposure in this group. Children are engaged in playing various types of sports and can lead to various types of blunt injuries to the eye. This is consistent with the study carried out by Ozougwu NS et al[7]on ocular trauma, the 18-35 years age group was most affected and the right eye was more frequently involved.

In our study most common presentation was corneal abrasion , SCH .In a study by Arun B Kolapsubconjunctival hemorrhage 72%, corneal abrasion 21.21%[8]

In our study Majority of the patients presented with 6/9 to 6/36 85%, 6/60 or worse in 15%. In Utkarsh parmal study out of 200 patients 38 has visual acuity of 6/6; of the remaining 162 eyes 17 - 6/6, 62 eyes had a final visual acuity of 6/9, 13 eyes 6/12, and 25 - 6/18 to 6/24 and remaining 45 eyes, 25 had less than 6/60 in which 24 had vision in finger counting and 1 had hand movement close to the face.[7]According to Palermo University, Italy (2001- 2005) [9] final visual acuity was 20/40 (6/12) or better in 144 eyes (48.3%), 20/40–

20/200 (6/12–6/60) in 90 eyes (30.2%) and <20/200 (6/60) or less in 46 eyes (15.5%) 18 eyes (6%) had a final acuity of no lightperception.

Looking at the present scenario of working pattern and visual demands of patients and the use of sophisticated instruments, it has become mandatory to identify the various ocular structures involved due to blunt trauma, which may vary in severity from a simple corneal abrasion to an extensive rupture of globe, and provide satisfactory vision at its earliest of blunt injuries in a total perspective.[10,11]

V. CONCLUSION:

Blunt trauma was common in males. More number of blunt injuries are due to road traffic accidents. Others injury while playing,wooden stick, stone .Visual outcome of trauma has improved due to proper supervision and follow up along with handling of complications after trauma which may cause maculopathy, macular hole, commotion retina, traumatic choroidal rupture. Visual outcomes of trauma has improved due to proper supervision and follow up . With the knowledge of circumstances of injury, their nature and damage caused, early appropriate management can be taken, and preventive measures may be advised.[12]

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