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PREVELANCE OF PENETRATING OCULAR TRAUMA IN LAHORE: A STUDY CONDUCTED IN JINNAH HOSPITAL LAHORE

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Abstract:

Purpose: *The purpose of this research is to study the prevalence and control of Penetrating Ocular Trauma at Jinnah Hospital Lahore.*

Methodology: *This research work carried out on 200 patients at Jinnah Hospital Lahore. Majority of the patients of this research work got admission through the Emergency Department. We collected the elaborated background history with particular consideration to the total injury and the object as a reason of injury. We recorded the visual acuity with the utilization of the Snellen chart and examination contained documentation of tear size, visual axis's involvement, and prolapse of iris, formation of cataract, IOFB (Intraocular Foreign Body) and detachment of retina. All the patients were present with the pre & post-operative B-Scan ultrasonography. We carried out the regular follow-up and recorded the final BCVA (Best Corrected Visual Acuity).*

Results*: The average age of the patients was 16.20 years, with about 63.0% POT present in first twenty year of life. In the first ten year of life, male to female ratio was 1.53: 1.0 but it arouses to 6.0:1.0 after 1st decade of life. IOFB was present in 11.0% patients and prolapse of iris in 58.46% patients. In 21.0% patients, there was involvement of visual axis. There were 71% were corneal tears and 20% were corneoscleral tears. The rate of occurrence of the formation of cataract was 57.56%. The relation of 31.0% trauma was with the sharp objects and 14.0% trauma has relation with blunt objects. There was occurrence of retinal detachment in 5.77% patients. There was relation of Post-op visual acuity with the trauma severity.*

Conclusion: *There was high occurrence of the trauma in the 25 years of life and this disease was much common in males as compared to the female patients. Sharp objects were the main reason behind the most of the trauma. There is a requirement of the awareness of this complication among public to decrease the rate of occurrence of blindness in the childhood stage.*

Keywords: *Retinal Detachment, Ocular Trauma, Injuries, Ultrasonography, Childhood, Iris, Prolapse, Occurrence.*

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INTRODUCTION:

One of the main cause of loss of vision in adults is ocular trauma. Yearly, 2.40 million persons suffer from injuries of eye in our country. Blinding injuries of about one million occur in the whole world. The most important reason of the unilateral blindness in ocular trauma now a day. The distribution of the age for the prevalence of the severe ocular trauma bimodal, with highest occurrence in adults and then in the elder population of society. Various research works have displayed that majority of these injuries are affecting males. About fifty percent patients who appear in the department of emergency are suffering from ocular trauma. The injuries can be mild, non-sight threatening and some leading to blindness. The aim of this research work is to identify the spread and control of this very complication.

METHODOLOGY:

A sum of total 200 patients present with POT were the part of this research work. This research work was carried out in Jinnah Hospital Lahore and the duration of this research was from March 2014 to March 2018. We made no discrimination for age and sex for the admission in study. Majority of the patients got admission through emergency department. We collected the elaborate background history with particular consideration to the injury duration & the object which is the reason behind injury. We recorded the visual acuity with the utilization of the Snellen chart and examination with slit lamp contained documentation of the tear size, its site, and visual axis's involvement, prolapse of iris, formation of cataract, IOFB and detachment of retina. All the patients were present with pre & post-op B-Scan ultrasonography. We carried out the general physical checkup of patients and testing in laboratory for different examinations particularly general anesthesia, count of total leukocyte, differential count of leukocyte, and complete analysis of urine, hemoglobin, X-ray of chest and skull, ECG, electrolyte balance & function of kidneys to prevent any other further complication.

We carried out the regular follow-ups for complete 3 months and we recorded the final BCVA on every visit. SPSS V.11 was in use for the analysis of the collected information. We analyzed the age with the help of descriptive method with average ± standard deviation. We analyzed the various variables as gender, pre-operative visual acuity, post-surgical visual acuity, treatment & related complications with percentages & frequencies.

RESULT:

There were total 200 patients in this research work. The average age of the patients was 16.20 years with nearly 63.0% POT occurring in 1st twenty years of life. In the 1st ten year of life, the ratio of males to female was 1.53: 1.0 but it highly increased to 6.0: 1.0 after the end of 1st ten years of life. IOFB was present in 71 patients (11.0%) and prolapse of iris in 98 patients (58.46%). There was involvement of visual axis in 58 patients (21.0%), 44 patients (71.0%) were present with corneal tears and 20.0% patients were present with corneoscleral tears. The rate of occurrence of the formation of cataract was 57.56%. 31% trauma was the outcome of sharp objects and 14.0% trauma was the outcome of blunt objects. The detachment of retina occurred in 5.77% patients. Post-op visual acuity has relation to the trauma severity.

Objects Causing Ocular Trauma

Objects causing trauma	Frequency	
	No	Percent
Metal piece / rod	40.0	15.00
Wooden piece/stick	20.0	13.00
Glass	15.0	7.00
Stone	20.0	6.16
Firecracker	10.0	2.46
Knife	15.0	3.36
Finger Nails	10.0	2.6
Needle	10.0	3.66
Fire arm	8.0	3.6
Animal	10.0	2.16
Scissors	10.0	3.46
Pen/pencil	12.0	2.46
Misc.	20.0	7.56

BCVA improvement was present in 26.20% patients, BCVA smaller than pre-op visual acuity was present in 7.72% patients, Pre-op & BCVA were similar in 54% patients. NPL (No Projection of Light) was the outcome in 6% eyes, 4% eyes became phythisical eyes, 0.036% eyes were enucleated, and 0.056% eyes were eviscerated. We lost the follow up of 7 eyes. There was very frequent presentation after twenty hours (76.0%) which was present with the association with the adverse prognosis. We used various option of therapy for trauma management. We carried out the repair of corneal tear in 62.0% patients, we performed the repair of scleral tear in 11.0% patients & repair of corneoscleral tears performed for 14% patients. 71 patients were present with IOFB, 40 patients were present with detachment of retina, hemorrhage of retina was present in 10 patients and 3 patients were present with retinal tear.

Corneal vs Scleral tear		
Site of tear	Frequency	
	No	Percent
Corneal tear	98.0	62.00
Scleral tear	58.0	11.00
Corneoscleral tear	44.0	14.00

DISCUSSON:

The reason of blindness in about half million populations in the whole world is ocular trauma and many people have lost their partial sight. The most important reason of the unilateral vision injury is trauma especially in the countries which are under development. There is dominancy of the males to acquire this complication as compared to the females. The high occurrence of ocular injury is very high in young adults. There is high association of the ocular trauma with the low social and economic classes. Because of the seriousness of the ocular trauma, most of the patients are present with adverse outcome of vision. Setting for incidence of the trauma is frequently workplace and high occurrence of the accidents on roads. The domestic accidents are not much common. One other important aspect in the countries which are under development is that incidence of trauma during agricultural work, often causing to loss of vision and ulceration of cornea.

Injuries of the globe particularly ruptured globes were present with the outcome of vision. There is an adverse association of the adverse prognosis with the vitreous hemorrhage following the open injury to globe. Late presentation of the patients is much frequent, which also has association with the adverse prognosis. This complication of ocular trauma leads children to loss of vision. Majority of the cases are avoidable. The education of population, awareness and fast management at primary level can improve the quality of the visionary outcome. There is also requirement for a systematic awareness at periodic levels to decrease the accidents as well as vision loss. This complication is much common in the children who are school going and majority of the cases are the victim of stones, sharp objects and wood. Mostly, these type of injuries occurred at houses. It is necessary to aware the children about this complication. It is also necessary to educate the people about ocular trauma to reduce the rate of occurrence of blindness in childhood.

CONCLUSION:

The incidence rate is much high in the first twenty year of life and it is more dominant in males as compared to the females. Most of the trauma is the outcome due to sharp objects. There is need of the awareness of ocular trauma to decrease the occurrence of the blindness in childhood period. There is also need of the education about health and awareness about the high rate of morbidity because of late presentation, particularly in the peripheral region to secure the vision. It is the responsibility of the primary health care units to give the treatment at the initial stages and refer the patients with severity to the close health care centers with tertiary care.

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