"A RETROSPECTIVE STUDY OF OCULAR MANIFESTATIONS OF TRAUMA IN A TERTIARY CARE HOSPITAL"

Ophthalmology

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ABSTRACT

Introduction: Ocular trauma is an important and common cause of blindness and disability in developing countries. Ocular injuries have significant socio-economic implications. Considering the importance of the ocular trauma and its implications the current study has been taken up to describe the several manifestations of ocular trauma presenting to a tertiary care hospital.

Method: A retrospective study of 132 case-records of patients attending Government General Hospital, Vijayawada, Andhra Pradesh. Details of ocular manifestations were obtained from a proforma filled at the time of presentation.

Results: In our study it was noted that ocular trauma is more common in males and young adults. Accidents were the most common mode of injury. A large number of patients had adnexal involvement with a significant number of closed globe injuries and a few sight-threatening manifestations.

Conclusion: Ocular manifestations of trauma can be varied ranging from ecchymosis to sight-threatening traumatic optic neuropathy and even occipital infarction. A detailed ophthalmic evaluation is important to diagnose and treat preventable causes of blindness.

KEYWORDS

Eye trauma, Ocular trauma, Retrospective study, India.

1. INTRODUCTION

Ocular trauma is an important cause of blindness and disability in developing countries (1). Trauma to the eye is very common in the developing countries (2).

Ocular injuries can vary from mild periocular injuries with no significant sequelae to grave injuries resulting in irreversible loss of vision. Ocular injuries have significant socio-economic implications (3). Injuries involving the cornea and lens usually require immediate intervention to prevent permanent disability. On the other hand, retinal or optic nerve injuries carry a poor prognosis (4).

Considering the importance of the ocular trauma and its implications the current study has been taken up to describe the several manifestations of ocular trauma presenting to a tertiary care hospital.

2. MATERIAL AND METHODS

This was a retrospective study of 132 case records of patients attending emergency and out-patient services in Government General Hospital, Vijayawada, Andhra Pradesh. Details of ocular manifestations were obtained from a proforma filled at the time of presentation.

3. RESULTS

Demographic factors

A total of 132 case records were analysed retrospectively. Males were more commonly affected than females (60.6% vs 39.4%). Ocular injuries were most common in the age group of 20-40 years (59.1%).

Table 1: Age and gender distribution of ocular trauma patients

<table>
<thead>
<tr>
<th>Age group (years)</th>
<th>Number (% total)</th>
<th>Number (%) Males</th>
<th>Number (%) Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;20</td>
<td>10 (7.5%)</td>
<td>6 (7.5%)</td>
<td>4 (7.7%)</td>
</tr>
<tr>
<td>20-40</td>
<td>78 (59.2%)</td>
<td>48 (60%)</td>
<td>30 (57.7%)</td>
</tr>
<tr>
<td>≥40</td>
<td>44 (33.3%)</td>
<td>26 (32.5%)</td>
<td>18 (34.6%)</td>
</tr>
<tr>
<td>Total</td>
<td>132</td>
<td>86</td>
<td>52</td>
</tr>
</tbody>
</table>

With respect to mode of injury accidental injuries (27.3%) were most common followed by occupational injuries (56.8%). A small number of cases were a result of assault (15.9%). Among children the most common mode of injury was accidental trauma at school or play.

Taking occupation into consideration, ocular injuries were most prevalent in labourers (31%) and drivers (17.4%) and least common in home-makers (3.7%). Occupational injuries were largely seen in daily-wage labourers (two-thirds) at construction sites or factories. Causes of accidental injuries included road traffic accidents (45.4% of 132 trauma patients), self-fall, fall of foreign bodies, injuries sustained while playing, domestic accidents, etc. Assaults were more common in labourers and unemployed followed by students and home-makers.

Table 2: Occupation and mode of injury in ocular trauma patients

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Total Number</th>
<th>Accidental</th>
<th>Occupational</th>
<th>Assault</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labourers</td>
<td>41 (31%)</td>
<td>11</td>
<td>24</td>
<td>6</td>
</tr>
<tr>
<td>Driver</td>
<td>23 (17.4%)</td>
<td>20</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Vendors</td>
<td>20 (15.1%)</td>
<td>16</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Unemployed</td>
<td>18 (13.6%)</td>
<td>11</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>Student</td>
<td>15 (11.4%)</td>
<td>12</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Farmer</td>
<td>10 (7.5%)</td>
<td>3</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>Homemaker</td>
<td>5 (3.7%)</td>
<td>2</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>132</td>
<td>75 (56.8%)</td>
<td>36 (27.3%)</td>
<td>21 (15.9%)</td>
</tr>
</tbody>
</table>

Ocular manifestations

102 patients had unilocular manifestations and 30 patients had bilateral involvement. In 57 of 102 patients right eye was involved and 45 of them had left eye involvement. The most common ocular manifestations of trauma were lid ecchymosis, abrasions and subconjunctival haemorrhage. Other common manifestations included corneal foreign bodies, lid lacerations, orbital fractures, traumatic uveitis and traumatic mydriasis.

Posterior segment manifestations were less common which included Berlin's edema, retinal breaks and choroidal rupture. One case of bilateral cortical blindness due to occipital infarction following trauma was observed.

Table 3: Ocular manifestations in patients with ocular trauma

<table>
<thead>
<tr>
<th>Clinical Feature</th>
<th>Number (%)</th>
<th>Clinical Feature</th>
<th>Number (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orbital Fracture</td>
<td>10 (7.5%)</td>
<td>Traumatic mydriasis</td>
<td>18 (13.6%)</td>
</tr>
<tr>
<td>Lid ecchymosis</td>
<td>86 (65.1%)</td>
<td>Iridodialysis</td>
<td>2 (1.5%)</td>
</tr>
<tr>
<td>Lid laceration</td>
<td>12 (9%)</td>
<td>Traumatic uveitis</td>
<td>28 (21.2%)</td>
</tr>
<tr>
<td>Lid abrasions</td>
<td>64 (48.4%)</td>
<td>Secondary glaucoma</td>
<td>3 (2.7%)</td>
</tr>
<tr>
<td>Ptosis</td>
<td>26 (19.7%)</td>
<td>Traumatic eataract</td>
<td>3 (2.7%)</td>
</tr>
</tbody>
</table>
The most common ocular manifestations of trauma were lid proportion (45.4%) of open globe injuries. (10) In contrast to this, study conducted by Titiyal et al showed similar results with the most common presentation being subconjunctival haemorrhage (15.3%). Other manifestations (13.6%) as reported in their study were laceration wounds involving the conjunctiva, cornea and sclera. (10)

Posterior segment manifestations were less common which included Berlins edema, retinal breaks and choroidal rupture. We also observed a rare case of bilateral cortical blindness due to ocular infarction following trauma.

To conclude, ocular manifestations of trauma can be varied ranging from subtle ecchymosis to sight-threatening injuries such as traumatic optic neuropathy and even ocular infarction. A detailed ophthalmic evaluation is important to diagnose and treat preventable causes of blindness.

5. REFERENCES