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Original Research Article

The clinical profile and causative factors for eyelid lacerations at a tertiary eye care centre in South India

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ABSTRACT

Purpose: The aim of this study was to identify the clinical profile and the likely causative factors for eyelid lacerations at a tertiary eye care centre in South India. This was done so that the data can be used to identify the most common patterns of injuries, using which effective safety measures can be developed.

Materials and Methods: A retrospective study was done through a review of hospital records of 57 cases of traumatic eyelid lacerations who presented to our centre in the period between Jan 2017 to Jan 2018. The data collected were related to epidemiological factors, causative factors, site of injury, structures involved and association with visual outcome.

Results: Of the 57 patients included in our study, 39 were men & 18 were women. The mean age of patients was 17+_{2.8} years. As far as the location of injury was concerned, 67.32% patients sustained them while outdoors, 10.52% at home, 23.16% at their workplace. The most common mode of injury was by trauma caused accidentally in 36 patients (63.15%), assault in 11 patients (19.29%), falls in 10 patients (17.54%), laceration involving either the punctum or canalicular drainage system were seen in 33.26% patients. Based on the Snellen chart visual acuity of the injured eye/s was as follows: in 54 patients (90.6%), the visual acuity was better than 6/60; while in 3 patients (9.4%), the visual acuity was worse than 6/60.

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1. Introduction

Ocular trauma is one of the most common causes of drop in vision/ loss of vision worldwide. Most of the times the injury is a preventable one.¹⁻³ Orbital fractures & penetrating globe injuries have been extensively investigated and have plenty of literature about them.⁴⁻⁶ Not much data is available regarding eyelid lacerations which are quite a common presentation in day to day clinical practice. This study aims to identify the clinical profile and the likely causative factors for eyelid lacerations at a tertiary eye care centre (Manjunatha Nethralaya, Bangalore) in South India. This was done so that the data can be used to identify risk factors & most common patterns of

injuries. Using this data effective safety measures could be developed.

2. Materials and Methods

This was a retrospective study which was done with a review of hospital records of 57 cases seen at our centre with traumatic eyelid lacerations, in the period between Jan 2017 to Jan 2018. The data collected were related to epidemiological factors, causative factors, site of injury and association with visual outcome.

The following inclusion criteria were considered – all patients who suffered mechanical trauma to the eye involving eyelids themselves or the lid margins causing a Lid laceration which was either partial or full thickness. Informed consent was obtained from each patient during

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their treatment and all patient data kept confidential. The study was done respecting the declaration of Helsinki and principles of good medical research. Collected data were analyzed using the SPSS version 15 (SPSS, Chicago, Inc) using descriptive analysis.

3. Results

This study enrolled 57 patients with 39(68.42%) males and 18(31.57%) females. The mean age of the chosen cohort was 17 ± 2.8 years. All of the patients were conscious at the time of hospital admission with no gross neurological deficits.

With regards to the type of injury, 36 patients (63.15%) suffered from accidental injuries, 11 patients (19.29%) suffered from assault related injuries and 10 patients (17.54%) with injuries related to falls.

With regards to the location of accidental injuries, 22 patients (61.1%) were injured whilst outdoors, 4 patients (11.11%) whilst at home, 10 patients (27.77%) whilst at work.

Table 1: Pattern of eye lid injuries

Type of injury	No. of patients (%)
Accidental	36 (63.15%)
Assault	11 (19.29%)
Falls	10 (27.77%)

A laceration involving either the punctum or canalicular drainage system were seen in 33.26% of patients. But on long term follow up they did not develop symptoms of epiphora, this was probably due to involvement of only one of the canaliculi/ puncta of the respective eye.

Relating to the site of injury, the right eye and upper eyelid were involved in 18 cases (31.57%), the left eye and upper eyelid were affected in 9 patients (15.78%), the right eye and lower eyelid were reported by 7 cases (12.28%), while the right eye and both eyelids were reported by 14 patients (24.56%), and the left eye and lower eyelid in 4 patients (7.01%) and the left eye and both eyelids were implicated in 5 (8.77%) cases.

Table 2: Site of eyelid injuries

	Right eye	Left eye
Upper lid	18(31.57%)	9(15.78%)
Lower lid	7(12.28%)	4(7.01%)
Both lids	14(24.56%)	5(8.77%)

With respect to the length of laceration; the length varied from 3 mm to 25 mm (mean \pm SD: 10.81 ± 13.1 mm).

The depth of laceration was measured to be between 1 and 15 mm (mean \pm SD of 4.08 ± 3.03 mm). Furthermore, the skin and subcutaneous tissue were affected in 40 cases (70.17%), while the skin, subcutaneous tissue, muscle and orbital septum were affected in 17 cases (29.82%).

Open globe injuries were found in 3 (5.2%) cases. Also, orbital fracture was observed in 5 cases (8.7%). No cases showed signs of infection suggestive of cellulitis.

Based on the Snellen chart visual acuity of the injured eye/s was as follows: in 54 patients (90.6%), the visual acuity was better than 6/60; while in 3 patients (9.4%), the visual acuity was worse than 6/60.

4. Discussion

In our study we found that men were more prone to getting eyelid injuries than women. The younger age groups with a mean of 17 ± 2.8 years are more commonly affected. Accidental injuries were the most common type of injury of which injuries sustained whilst outdoors/ due to traffic accidents was the commonest mode. Work related injuries were the next most common types of accidental injuries. This is in agreement with previous studies that mention that men are more likely to be involved in manual labour. Also younger men are more often employed than their older counter parts in occupations that have a higher incidence of work related injuries.^{7,8}

The injuries were on average 10.81 ± 13.1 mm long & 4.08 ± 3.03 mm deep. This is once again in unison with previous literature commenting on accidental injuries. Accidental injuries are more likely to be higher velocity injuries with greater force of impact/ shearing. This can cause tissue loss & ischaemic of surrounding structures.^{9,10} In general accidental injuries, due to their nature also tend to be associated with a greater incidence of infections.^{11,12} In our study due to meticulous aseptic practices in the operating theatre, while having a team with good experience in managing such injuries, none of the patients suffered from orbital cellulitis.

Open globe injuries were found in 5.2% of cases. Orbital fractures were found in 8.7% of cases. Such injuries were managed with utmost diligence in a timely fashion. Canalicular involvement was seen in 33.26% of cases. Patients sustaining such injuries were asymptomatic on long term follow up as only one of the canaliculi was involved.

In a majority of patients the vision was better than 6/60, although 9.4% cases had a visual acuity less than 6/60. Thus some patients who sustained such eyelid and associated injuries ended up with very severe visual impairment. With most of such patients being in their younger years, this would be impacting their productivity in the society. Some patients also developed some degree of depression & were placed under the care of a psychiatrist for this. This illustrates that there is a very urgent need of better designing of work place environments to make them safer to work in. Stricter regulations to be passed regarding use of safety equipment in all work places.

5. Conflict of Interest

The authors declare that there are no conflicts of interest in this paper.


6. Source of Funding

None.

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