Malaysian Journal of Ophthalmology

© Malaysian Journal of Ophthalmology 2024; 6:6-9
Editorial
https://doi.org/10.35119/myjo.v6i1.425

Special issue on ophthalmic trauma

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Abstract

A prospective study on ophthalmic trauma at the Universiti Malaya Medical Centre in West Malaysia by Soong *et al.* in 2008 found work-related injuries to be a major cause of ophthalmic trauma. The majority of patients were males, typically of working age, and only a dismal 2.5% had eye protection.[1] Another prospective report from Kuching in East Malaysia by Mallika *et al.* reported similar patterns of ophthalmic trauma.[2] Thanigasallam and Reddy reviewed ocular injuries in Malaysia in 2017 and concluded that protective devices must be worn to prevent injuries and that health education to prevent injuries was crucial.[3]

These Malaysian reports set the stage for our highly anticipated and timely Malaysian Journal of Ophthalmology (MyJO) special issue on ophthalmic trauma, which aspires to showcase articles on ophthalmic trauma in order to combat vision loss in this area. Ophthalmic trauma comprises injuries to the eyeball and adjacent structures such as the eyelids, tear ducts, and orbit as well as the face. These injuries may not only cause blindness but also disfigure individuals, affecting their productivity and livelihood, and amount to considerable costs involved in the management, rehabilitation, and even significant financial compensation. The Asia-Pacific Ophthalmic Trauma Society (APOTS) was formed with the mission to build a network and team of eye care professionals with a special interest in ophthalmic trauma to advance clinical care, science, and research in ophthalmic trauma.[4]

In the article “Ophthalmic trauma: Are we doing enough?”, Grover highlighted the magnitude of ophthalmic trauma worldwide.[5] In this review, it was noted that while as many as 1.6 million people are blind from eye injuries, the number of eye injuries are as high as 55 million and comprise 38–65% of ophthalmic emergencies. More recent data from the International Globe and Adenexal Trauma (IGATES) Study shows the mean age of patients is similar to our local population at 31.1 ± 17.4 years, with a similar male majority of 78.3%. Again work-related injuries were prominent, followed by road accidents.[6]

We have compiled excellent articles with ophthalmic trauma as the theme for this special issue. This compilation echoes our commitment as a journal to reducing ophthalmic morbidity and vision loss caused by trauma in the Asia-Pacific region and around the world. From September 17 to 18 2022, Malaysia was proud to co-host the 11th COSC-APOTS Meeting in Kuala Lumpur, marked by the publication of the meeting abstracts in MyJO's joint supplement with APOTS in 2022.[4]

Articles on ophthalmic trauma commonly utilise retrospective reviews because the presentations are often sudden and unpredictable, making this type of study among the most feasible. Four articles included in this special issue report decades-long data on ophthalmic trauma. One of these is "Ten-year review of traumatic nasolacrimal duct obstruction: clinical profile, management and outcomes" by Zahar *et al.* In this article, the authors reported a retrospective analysis of 40 patients post-trauma in a single tertiary referral centre in Malaysia over a decade. The number of patients was higher than very similar studies in Turkey and India.[7,8] This article provides an important overview of post-trauma nasolacrimal duct obstruction management and outcomes in Malaysia, in which road accidents are a frequent cause as described by IGATES.[6]

Similar to findings reported in both previous studies, males were more than 3 times more commonly affected than females, with a mean age in the fourth decade. Motor vehicle accidents was the main cause of trauma (95%) and is higher than other studies (50–70%).[7,8] Similarly, the commonest presenting symptoms were epiphora and dacryocystitis, while the most common sign was telecanthus.

The authors reported 45% of naso-orbito-ethmoidal (NOE) fractures, very similar to the findings reported by Uzun *et al.* (47%).[8] Telecanthus invariably follows NOE fractures.[9] In this case series, most cases had traumatic telecanthus (70%), compared to 54% and 17% as reported by Mukherjee and Dhobekar and Uzun *et al.*, respectively.[7,8] This provides an interesting observation in a Southeast Asian heterogeneous population with more oriental facial features compared to the populations in both previous studies.

Scarring and fibrosis in cases with delayed referral makes the surgery more challenging due to altered structures, all of which contributes to failure of functional outcome and persistent tearing. Therefore, an important take-home message is that timing for traumatic NLDO repair within 6 months is imperative to achieve successful outcomes, both anatomically and functionally.

The article by Muhd Syafiq describes a 10-year review of traumatic hyphaema at a tertiary hospital on the East coast of Malaysia. Traumatic hyphaema is a common sequelae to blunt or lacerating ophthalmic injury. In this retrospective review, sports and recreational activities were the most common cause of traumatic hyphaema. Again, the authors advocate raising public awareness for protective eyewear for those pursuing such activities.

The study by Irawati *et al.* documents paediatric ophthalmic trauma cases at one of Indonesia's private tertiary eye hospitals over a decade beginning in 2012. This

study reviews the clinical presentation and predictive factors on final visual acuity, finding that trauma was most commonly sustained at home. Open-globe injuries were seen frequently and led to vision loss. Paediatric ophthalmic trauma deserves special mention. Madan *et al.* reported in 2020 that sport-related injuries were most common in their series in India, where paediatric eye injuries were a focus.[10] We look forward to sessions on paediatric ophthalmic trauma, which will be featured at the coming 5th World Congress of Paediatric Ophthalmology and Strabismus to be held in Kuala Lumpur hosted by the World Society of Paediatric Ophthalmology and Strabismus (WCPOS) and the Malaysian Society of Ophthalmology (MSO) July 11–13 2024. (https://www.wcposv2024.org).

Another article reviewing decade-long data on ophthalmic trauma is the article by Khoo *et al.*, which looks specifically at trauma cases requiring vitreoretinal surgery. Largely, these cases have more severe injuries, including both open- and closed-globe injuries, of which sport-related injuries were highlighted. This is another area of concern where blindness can be prevented through eye protection, and where legislation for mandatory protective eyewear can make a difference to the outcome in competitive sports events.

The issue also looks at specific causes of trauma such as firecracker-related eye trauma in a Malaysian town in the article by Ismail *et al.*, who report on the devastating injuries sustained to the eye and orbit from firecrackers. Firecrackers were also found to be one of 3 main causes of ophthalmic trauma in their paediatric series[10] and should be the focus of stricter legislation given that they have now been legalised in Malaysia. Meanwhile, the article by Bista *et al.* highlights cases of ophthalmic injuries in female victims of domestic abuse, a unique perspective and often overlooked cause of ophthalmic trauma.

The series by Yusri *et al.* on intraorbital foreign bodies serves as a good reminder of the great challenge in managing these cases, particularly those of organic origin that may be missed, thus resulting in orbital infections. However, those with globe involvement had the greatest impact on vision. Our local authors, Ho *et al.*, have previously reported two cases, highlighting that luck may sometimes play a role in the outcome of these conditions.[11] However, imaging is essential to the diagnosis and management.

Given the rising number of intravitreal injections that need to be administered worldwide, estimated to be over 20 million in 2016,[12] the article by Liow *et al.* is both imperative and timely given that even intravitreal injections can result in trauma, namely to the crystalline lens. This article reviews the complication rate when injections were given by medical officers, highlighting the need for structured training.

As for repair and rescue of these cases, the timing to surgical repair for cases of ophthalmic trauma during the COVID-19 pandemic is delved into by Subbiah *et al.* While the worst of the pandemic is behind us, it is worthwhile noting from this article that repair for ophthalmic trauma can be successfully conducted on time.

World Sight Day (WSD) 2024 with the theme of "Love Your Eyes at Work'' could not be a more timely occasion to publish this issue of ophthalmic trauma, given that the workplace remains the main location in which ophthalmic trauma occurs both locally and overseas.[1-4] This WSD 2024 theme will resonate with our special issue, including the need to prevent trauma at the workplace through the compulsory usage of protective and appropriate eyewear.

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