PriMera Scientific Surgical
Research and Practice
Volume 8 Issue 5 November 2026
DOI: 10.56831/PSSRP-08-344
ISSN: 2836-0028

PriMera Scientific Publications

Sports-Related Eye Trauma from Badminton: Case Series and Long-Term Risks

Type: Case Series
Received: October 10, 2026
Published: November 03, 2026

Citation:
Pan Ting Sun., et al. "Sports-Related Eye Trauma from Badminton: Case Series and Long-Term Risks". PriMera Scientific Surgical Research and Practice 8.5 (2026): 04-06.

Copyright:
© 2026 Pan Ting Sun., et al. This is an open-access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Pan Ting Sun*, Adzura Binti Salam and Khairul Anwar Bin Ibrahim

Department of Ophthalmology, Kulliyyah of Medicine, IIUM Jalan Sultan Ahmad Shah, 25200, Kuantan, Pahang

***Corresponding Author:** Pan Ting Sun, Department of Ophthalmology, Kulliyyah of Medicine, IIUM Jalan Sultan Ahmad Shah, 25200, Kuantan, Pahang.

Introduction

Badminton is one of the most widely played sports in Malaysia and is generally perceived as safe. However, ocular trauma from shuttlecock impact can result in significant visual morbidity. We present a case series of three patients who sustained ocular injuries from shuttlecock impact, all seen at our IIUM ophthalmology clinic in 2024. The severity of such injuries can range from mild anterior segment inflammation to vision-threatening complications. This case series highlights the clinical presentation, management, and potential long-term consequences of shuttlecock-related eye injuries.

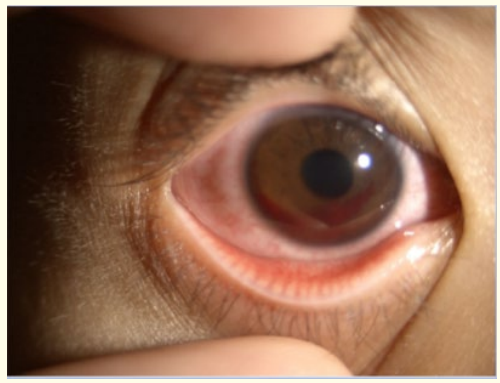
Case Report

Case 1: A 12-year-old boy presented with left-eye pain and redness following a shuttlecock impact. He also complained of photophobia. On presentation, his visual acuity was 6/6 in the right eye (OD) and 6/7.5 in the left eye (OS). Examination revealed circumciliary conjunctival injection. On the following day, his visual acuity in the left eye deteriorated to 6/9. Anterior segment examination showed the presence of inflammatory cells in the anterior chamber. He was diagnosed with left eye traumatic uveitis and was started on topical corticosteroid therapy, to which he responded well. One week after treatment, there was complete resolution of anterior chamber inflammation, and his visual acuity returned to normal (6/6 OU).

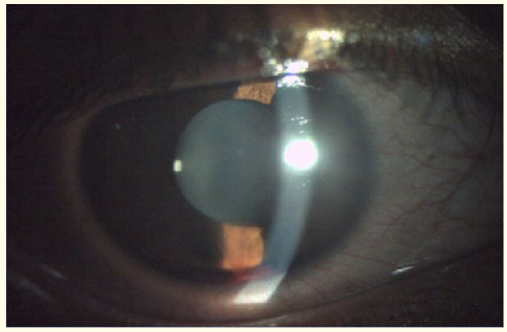
Diagnosis: Left eye traumatic uveitis.

Case 2: A 23-year-old woman sustained a shuttlecock strike to the right eye, resulting in a lower-lid periorbital hematoma. She did not complain of blurred vision. On presentation, her visual acuity was 6/6 in both eyes (OU). Examination revealed bruising over the lower eyelid, with no crepitus or step deformity or lacerations. She was managed conservatively with warm compresses, which led to complete resolution without ocular sequelae. However, her intraocular pressure was noted to be elevated. On subsequent follow-up three months later, gonioscopy was performed and revealed no evidence of angle recession.

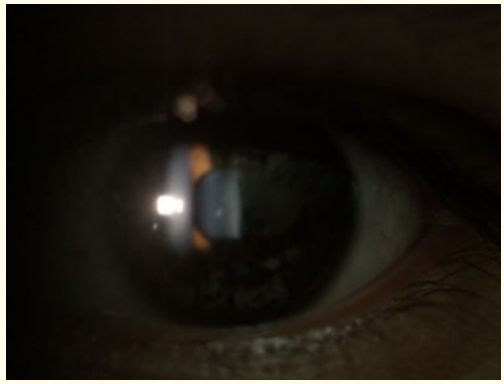
Diagnosis: Right eye periorbital hematoma.



Right eye traumatic hyphema – Case 3



Right eye traumatic mydriasis – Case 3



Right Eye traumatic uveitis with present of cells in anterior chamber – Case 3

Case 3: A 15-year-old boy sustained a shuttlecock injury during a physical education class at school. Following the trauma, he developed severe right-eye pain, redness, and blurring of vision. On presentation to the ophthalmology department, visual acuity in the right eye was hand movements, while vision in the left eye was normal. Anterior segment examination revealed a deep traumatic hyphema occupying approximately one-third of the anterior chamber, traumatic uveitis, and traumatic mydriasis with anisocoria (OD 2.5 mm, OS 2.0 mm). Fundus examination showed commotio retinae. His visual acuity and hyphema gradually improved over the following days. However, on day 7 post-trauma, the intraocular pressure in the right eye rose to 44 mmHg. He was started on topical and systemic intraocular pressure-lowering medications. Following prompt treatment, his visual acuity recovered to 6/6 and intraocular pressure normalised. Despite this, he subsequently developed angle recession and a traumatic cataract, needing ongoing long-term monitoring.

Initial diagnosis: Right eye traumatic hyphema, traumatic uveitis, and traumatic mydriasis.

Final diagnosis: Right eye traumatic cataract with angle recession.

Discussion & Conclusion

Badminton poses a substantial yet under-recognized risk for ocular trauma, with the potential for irreversible visual consequences if injuries are severe or inadequately treated. The spectrum of injury ranges from mild anterior segment inflammation to severe penetrating trauma with poor visual prognosis. Injuries may result from a shuttlecock smash, player movement during doubles play, or racket contact. The shuttlecock remains the most common causative agent [1]. Eighty-six percent of injuries were caused by the shuttlecock and, where identified, all were associated with doubles play with no eye protection [2]. The shuttlecock's cork base diameter (25-28 mm) allows it to fit within the bony orbit, leading to maximal globe impact. As noted in two Malaysian case series, while many cases improve with medical therapy, penetrating injuries continue to demonstrate significantly poorer visual outcomes [1-3]. Although shuttlecock-related ocular injuries may initially present with reversible visual loss, they can lead to delayed and sight-threatening complications. Early assessment, appropriate intervention, and long-term follow-up are crucial to prevent secondary glaucoma and other late sequelae. Public awareness and the use of protective eyewear should be encouraged to reduce the risk of badminton-related eye trauma.

References

1. Fatin Nabila Mat Nawi and Mae-Lynn Catherine Bastion. "Hazards of Malaysia's Favorite Sport: A Case Series of Badminton-Related Ocular Injuries at a Single Tertiary Center". Cureus 18.1 (2026): e101594.
2. Annette K. Hoskin., et al. "Badminton-related eye injuries: A case series from Malaysia". Asian Journal of Ophthalmology and International (2024): 100084.
3. Nicholas Dewhurst., et al. "Ocular trauma in badminton: A 5-year review of badminton-related eye injury emergency department presentations". Emerg Med Australas 36.6 (2024): 915-919.