

Content available at: <https://www.ipinnovative.com/open-access-journals>

IP International Journal of Ocular Oncology and Oculoplasty

Journal homepage: <https://ijooo.org/>

Guest Editorial

Posterior segment manifestations of ocular trauma

Diva Kant Misra^{1,*}, Rajendra Kumar Bundela², Peeyush Misra¹, Nisha Kant Misra¹

¹SwarnJyoti Eye Hospital, Lucknow, Uttar Pradesh, India

²Bundela Netra Kendra, Lucknow, Uttar Pradesh, India



ARTICLE INFO

Article history:

Received 20-10-2022

Accepted 28-10-2022

Available online 08-11-2022

This is an Open Access (OA) journal, and articles are distributed under the terms of the [Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License](https://creativecommons.org/licenses/by-nc-sa/4.0/), which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

For reprints contact: reprint@ipinnovative.com

Trauma can lead to devastating effects on the posterior segment of the eye. Even trivial injuries can have vision threatening complications involving the retina and surrounding structures. With several advancements in posterior segment surgeries it is possible to salvage the eye and get reasonably fair visual outcomes in most cases. A basic knowledge of the common posterior segment manifestations of trauma is extremely important when it comes to management or referral of these cases.

The most common manifestation that we encounter is Berlin's edema (Comotio Retinae).¹ It can be identified as a greyish-white discolouration of the retina which happens due to disruption of outer segment photoreceptor layer after trauma. It may be accompanied with macular oedema or haemorrhages. Usually it completely resolves on its own or may lead to some scarring resulting in vision loss.

Trauma may lead to stretching and breakage of the Choroid, Bruch's Membrane and Retinal Pigment epithelium commonly referred to as Choroidal rupture. The overlying neuro-sensory retina is usually intact. It can be clinically observed as a sub-retinal yellowish-white crescentic streak on the posterior pole. There may be several such streaks of choroidal rupture and when involving the fovea may lead to severe vision loss which is not amenable to treatment. Para-foveal choroidal rupture is usually without any visual impairment.²

* Corresponding author.

E-mail address: divakant@gmail.com (D. K. Misra).

Trauma may lead to retinal detachment through a variety of retinal breaks. There may be small holes, macular holes or large dialysis. The patient may present with hazy media due to vitreous haemorrhage in blunt trauma or hazy cornea in case of penetrating injuries. A meticulous Ultrasonography should be performed to assess the extent of underlying retinal damage. Hazy cornea due to a corneal tear, corneal scar or a corneal abscess may need a combined approach. Such cases require the use of a temporary keratoprosthesis to achieve a clear media while operating on the retina.³ Damaged lens may need lensectomy and secondary IOL implantation at a later stage. The choice of tamponade depends on the location, extent and duration of detachment. Long standing, large breaks in the inferior quadrant with PVR changes fair better with silicone oil tamponade and less severe cases with breaks only in the superior quadrant may only need a gas tamponade.

Traumatic Macular Hole is another sight threatening manifestation of trauma. It can be easily identified clinically or on Ocular Coherence Tomography. Small sized holes may be observed for spontaneous closure, larger holes require Vitrectomy with Internal Limiting Membrane Peeling and injection of SF6 or C3F8 with prone positioning.⁴ Usually the visual prognosis is guarded in such cases.

Retained intra-ocular foreign bodies may lead to devastating ocular complications like vitreous haemorrhage, retinal detachment, endophthalmitis etc. Such cases require

prompt diagnosis, identification and localisation of the foreign body and surgical removal. Broad-spectrum antibiotics in the vitreous cavity at the end of the surgery help in preventing enophthamitis if it hasn't already occurred. The right instruments should be kept handy to grab and remove the foreign body as repeated falling of the foreign body on the retina may damage the retina further.⁵

Injuries that involve the posterior segment are usually of grave nature and an extremely traumatic experience for the patient and a challenging one for the surgeon. Patients need to be counselled with empathy regarding the severe nature of the trauma and that several surgeries may be required and despite best efforts optimal visual outcomes may not be achieved. It's important to have a balanced approach while dealing with these patients and keep them informed about each step of repair.

Conflict of Interest

None.

References

- Berlin R. Sogenannten commotio retinae. So-called commotio retinae. *Klin Monatsbl Augenheilkd.* 1873;1:42–78.
- Aguilar JP, Green WR. Choroidal rupture: A histopathological study of 47 cases. *Retina.* 1984;4(4):269–75.
- Skevas C, Bigdon E, Steinhorst A, Katz T, Schindler P, Kromer R, et al. A novel temporary keratoprosthesis technique for vitreoretinal surgery. *Int J Ophthalmol.* 2021;14(11):1791–5.
- Amari F, Ogino N, Matsumura M, Negi A, Yoshimura N. Vitreous surgery for traumatic macular holes. *Retina.* 1999;19(5):410–3. doi:10.1097/00006982-199909000-00007.
- Jung HC, Lee SY, Yoon CK, Park UC, Heo JW, Lee EK, et al. Intraocular Foreign Body: Diagnostic Protocols and Treatment Strategies in Ocular Trauma Patients. *J Clin Med.* 2021;10(9):1861. doi:10.3390/jcm10091861.

Author biography



Diva Kant Misra, MBBS, DO, DNB, MNAMS, FVRS
 Director, Swarn Jyoti Eye Hospital, Aliganj, Lucknow, India
 Head, Retina Services, SwarnJyoti Eye Hospital, Aliganj, Lucknow, India

Cite this article: Misra DK, Bundela RK, Misra P, Misra NK. Posterior segment manifestations of ocular trauma. *IP Int J Ocul Oncol Oculoplasty* 2022;8(3):174-175.