

Surgical outcome of early vitrectomy in Terson's Syndrome: a case report

Gabriel Pinheiro Santos¹; Lucas Suassuna¹; Michelle Gantois¹

¹Fundação Altino Ventura

PURPOSE

Terson's Syndrome (TS) is characterized by retinal or vitreous hemorrhage (VH) associated with subarachnoid hemorrhage (SAH) (1,2). The aim of this work is to report a case of early vitrectomy in Terson's syndrome caused by a dissecting aneurism of vertebral artery, with satisfactory outcome.

METHODS

Case report conducted at Fundação Altino Ventura and Hospital Pelópidas Silveira, Recife/PE, Brazil.

CASE REPORT

A 41-year-old woman, with 23 days of bilateral vision loss, recently discharged of a neurocritical center unit for a diagnosis of SAH grade 4 (Fisher scale). Cerebral angiography revealed a dissecting aneurism of the right vertebral artery, which was managed with endovascular embolization.



Figure 1: OD and OS respective retinographies at ophthalmological admission.

CASE REPORT

Uncorrected visual acuity (UCVA) was hand motion in right eye (OD), counting fingers close to face in left eye (OS). Posterior segment had bilateral symmetric findings of multifocal retinal hemorrhages and dense central vitreous hemorrhage (VH) grade 4 (figure 1), confirmed by ultrasound (USG) (figure 2).

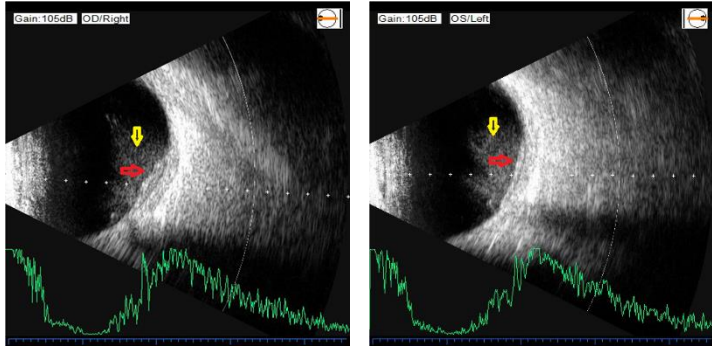


Figure 2: Longitudinal OD and OS USG scans, respectively, in macular area. Yellow arrows show vitreous hemorrhage (echoes of mild amplitude). Red arrows show thickened macular wall

Surgical treatment of OD was performed with vitrectomy 14 days after the admission. During the surgery, a large area of intraretinal hemorrhage was visualized in central macula. Posterior vitreous detachment was induced and C3F8 gas was injected.

At the 30th day follow up the patient had evident better resolution of retinal hemorrhages (figures 3 and 4), and significant improvement was noticed with final corrected visual acuity 20/30, and UCVA 20/40, in this eye. The surgery of the fellow eye is being planned.



Figure 3: Post – operative OD retinography at 1 month follow -up

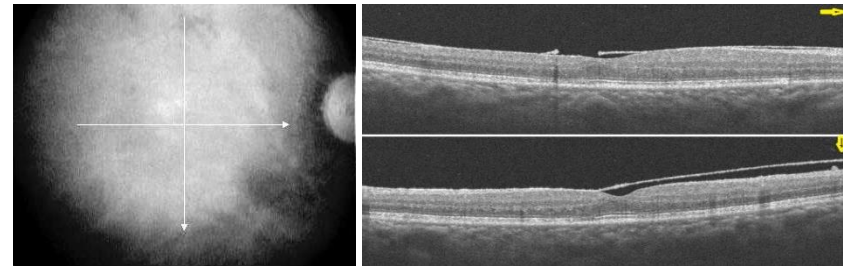


Figure 4. Post – operative macular OCT at 1 month follow -up.

DISCUSSION

The diagnosis of the ocular manifestations in Terson's syndrome is commonly delayed due to its severe neurological conditions⁽³⁾. In this case, the patient had a high stage radiological finding (Fisher 4) SAH, with prompt successful endovascular treatment, arriving at the ophthalmological department with complete normal neurological status. Mild cases of ocular hemorrhages can be managed conservatively, with observation and treatment of local complications, whereas vitrectomy is usually performed in bilateral or persistent cases^(4,5). A surgical plan to perform early vitrectomy with gas injection was executed leading to a satisfactory visual outcome. This was demonstrated by the final images of Optical Coherence Tomography (OCT) and retinography, showing full resolution of ocular hemorrhages. The patient remained with normal neurological status throughout all ophthalmological treatment.

CONCLUSION

Even though SAH is a life-threatening condition, cases as the one aforementioned, with severe neurological features and extensive ocular findings, can have good systemic and visual outcomes. In addition, early vitrectomy can be a feasible treatment, especially for bilateral involvement. Therefore, correct early diagnosis and treatment are crucial to mitigate the chances of visual impairment.

REFERENCES

- 1.Kuhn F, Morris R, Witherspoon CD, Mester V. Terson syndrome. Results of vitrectomy and the significance of vitreous hemorrhage in patients with subarachnoid hemorrhage. *Ophthalmology*. 1998; 105:472–477
- 2.Hayreh SS. Pathogenesis of Terson syndrome. *Indian J Ophthalmol*. 2022 Dec; 70(12):4130-4137.
- 3.Seif GI, Teichman JC, Reddy K, Martin C, Rodriguez AR. Incidence, morbidity, and mortality of Terson syndrome in Hamilton, Ontario. *Can J Neurol Sci*. 2014; 41(5):572-576.
- 4.Garweg JG, Koerner F. Outcome indicators for vitrectomy in Terson syndrome. *Acta Ophthalmol*. 2009; 87: 222– 226.
- 5.Sharma T, Gopal L, Biswas J, Shanmugam MP, Bhende PS, Agrawal R, Shetty NS, Sanduja N. Results of vitrectomy in Terson syndrome. *Ophthalmic Surg Lasers*. 2002; 33: 195– 199.