

Terson's Syndrome in Subarachnoid Hemorrhage

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A 43-year-old woman presented with acute onset of headache and vomiting. Subarachnoid hemorrhage (SAH) was found on computed tomography scan. Cerebral angiography showed a dissecting aneurysm of the proximal right vertebral artery (Fig. 1), which was occluded by a balloon technique.

The patient's visual acuity was counting fingers OU. Retinal examination showed extensive bilateral retinal,

preretinal, and vitreous hemorrhage (Fig. 2). Terson's syndrome was diagnosed, and observation was recommended. Three months later, the patient's visual acuity was 20/25 OU, and the hemorrhage resolved.

Terson's syndrome refers to the occurrence of vitreous hemorrhage with (SAH) (1). Intraocular hemorrhage—subretinal, intraretinal, and preretinal (subhyaloid)—can also occur (2). Garfinkle et al. (2) observed vitreous hemorrhage in 3% to 5% of patients with SAH, whereas intraocular hemorrhage without vitreous hemorrhage occurred in 20% to 40% (2).

The pathogenesis of Terson's syndrome is unclear. One widely accepted theory (3) suggested that the sudden increase in intracranial pressure in SAH is transmitted to the optic nerve sheath through the subarachnoid communication between the optic canal and intracranial cavity. The optic nerve sheath dilates and compresses both the central retinal vein and retinochoroidal anastomoses, thus reducing retinal venous drainage, with rupture of retinal vessels and hemorrhage into the vitreous.

Patients with Terson's syndrome have a poor prognosis, with a mortality rate that is twice that of patients with SAH in whom there is no vitreous hemorrhage (2). For those who survive, visual recovery is usually good as the intraocular hemorrhage slowly resolves (4), and conservative management is recommended. Patients should be followed for ocular complications such as glaucoma and epiretinal membrane. Nonclearing vitreous hemorrhage may benefit from vitrectomy (5).

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FIG 1. Cerebral angiogram showing a dissecting aneurysm (arrow) of the intradural portion of the proximal right vertebral artery.

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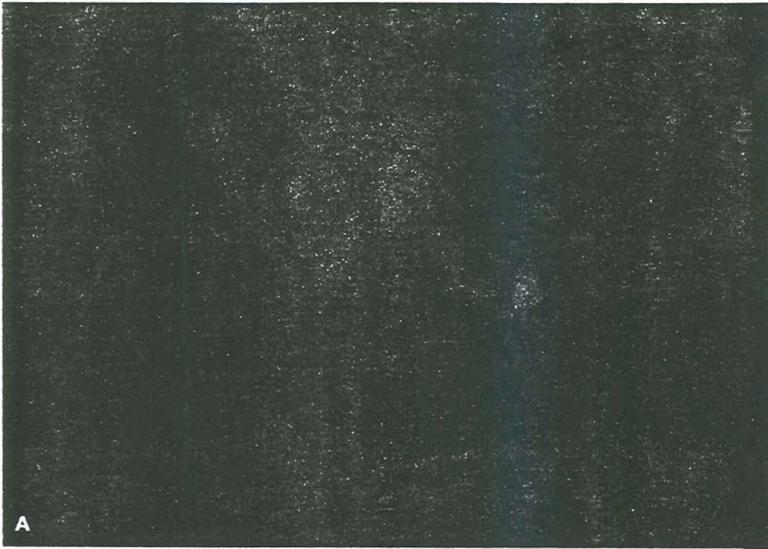


FIG. 2. Fundus photographs taken at initial presentation showing extensive bilateral retinal, preretinal, and subhyaloid hemorrhages. Vitreous hemorrhage was seen inferiorly (not shown). **A:** Right eye. **B:** Left eye.