Computed Tomography Diagnosis of Terson Syndrome

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Figure 1. (A) Serial computed tomography (CT) scans obtained throughout the hospital stay of patient 1, demonstrating crescent-shaped vitreous hyperdensity compatible with hemorrhage (arrows). (B) CT scan demonstrating intraparenchymal and subarachnoid hemorrhage. (C) Intraoperative fundus image during pars plana vitrectomy, showing extraction of a dark, formed clot (arrow).

In 1900, the French Ophthalmologist Albert Terson reported vitreous hemorrhage related to aneurysmal rupture,¹ likely caused by acute retinal venous hypertension from sudden increase in intracranial pressure.² We describe 2 patients with a delayed diagnosis of Terson syndrome in whom computed tomography (CT) scans demonstrated the intraocular hemorrhage.

The first patient is a 43-year-old female with Ehlers-Danlos syndrome who was found unresponsive due to diffuse subarachnoid and left frontotemporal hemorrhage from a large left middle cerebral artery aneurysm. The second is a 58-year-old female who was found unresponsive due to extensive subarachnoid hemorrhage from a right middle cerebral artery aneurysm. Both patients

underwent surgical clipping of the aneurysm. They regained consciousness during rehabilitation, at which point they were found to have visual loss. Funduscopy

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Figure 2. (A) Serial computed tomography (CT) scans obtained throughout the hospital stay of patient 2, demonstrating crescent-shaped vitreous hyperdensity compatible with hemorrhage (arrows). (B) CT scan demonstrating intraparenchymal and subarachnoid hemorrhage. (C) Dilated fundoscopic examination demonstrating opacified vitreous limiting the visualization of the retina.

revealed extensive vitreal clot in both the eyes. Review of prior CT scans showed bilateral intraocular blood-vitreous levels (Figures 1 and 2). Following the diagnosis of Terson syndrome, both patients underwent successful vitrectomy with restoration of normal vision.

Terson syndrome, a known complication of subarachnoid hemorrhage, causes potentially reversible vision loss due to vitreous and subhyaloid hemorrhage. In some cases, a blood-vitreous level can be identified on CT scans, but this finding is often overlooked. Although imaging studies are not a substitute for the ophthalmoscopic examination, the radiological examination of Terson syndrome could expedite diagnosis in patients for whom a clinical diagnosis has not been made.

Declaration of Conflicting Interests

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