Teaching NeuroImages: Middle cerebral artery aneurysm rupture presenting as pure acute subdural hematoma

Thalia S. Field, MD
Manraj K.S. Heran, MD, FRCPC

A previously well 33-year-old man with no history of trauma or substance abuse presented with poor right eye visual acuity, somnolence, and vomiting several hours after sudden onset of severe, persistent headache. Examination revealed only a right relative afferent papillary defect and subretinal blood on funduscopy (Terson syndrome, figure 1A). Hunt and Hess grade was 3.

CT showed right subdural and subhyaloid hemorrhages (figure 1). Angiography revealed a right middle cerebral artery aneurysm (figure 2).

Aneurysm rupture rarely presents as pure acute subdural hematoma. Proposed mechanisms involve direct aneurysm rupture into subdural space, from orientation, adherence to dura, or rupture through subarachnoid space by a superficial or high-pressure bleed.1

Terson syndrome refers to intraocular hemorrhage with aneurysm rupture. Proposed pathophysiology includes retinal venous bleeding from stasis secondary to increased intracranial pressure, or from blood forced into the subarachnoid space and then along the optic nerve sheath into the preretinal space under pressure.2

REFERENCES

Figure 1
Funduscopic photograph

(A) Subhyaloid hemorrhage from another patient, and axial CT scan (B, C) shows right-sided subdural hematoma with no subarachnoid or intraventricular blood (black arrows) and subhyaloid hemorrhage (gray arrow). Photograph reprinted with permission from www.neuroophthalmology.ca.

Figure 2
Digital subtraction right carotid angiography

Coronal (A) and sagittal (B) views demonstrating bilobed aneurysm at the middle cerebral artery trifurcation. There was no evidence of an arteriovenous dural fistula.

From the Department of Radiology, Vancouver General Hospital, Vancouver, BC, Canada.

Disclosure: The authors report no disclosures.
Teaching NeuroImages: Middle cerebral artery aneurysm rupture presenting as pure acute subdural hematoma

Thalia S. Field and Manraj K.S. Heran

Neurology 2010;74:e13
DOI 10.1212/WNL.0b013e3181cc0b60

This information is current as of January 25, 2010