Contralateral subdural hematoma resulting from intraoperative aneurysm rupture

Case illustration

GABRIEL GONZALES-PORTILLO, M.D., AND ROBERTO C. HEROS, M.D.

Department of Neurological Surgery, University of Miami School of Medicine, Miami, Florida

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A 42-year-old woman suffered a subarachnoid hemorrhage. Angiography revealed a downward-pointing anterior communicating artery (ACoA) aneurysm, which we believed was the cause of the hemorrhage, as well as an ipsilateral ophthalmic artery aneurysm (Fig. 1). We operated immediately without using lumbar drainage. As we opened the dura, the aneurysm ruptured massively. Within seconds, the patient's brain started to protrude through the operative site. We were required to use suction continuously on our pathway to the aneurysm through the frontal lobe. The aneurysm was satisfactorily clipped within a couple of minutes; however the brain continued to protrude alarmingly through the craniotomy site. Ultrasound exploration did not reveal an intracerebral or intraventricular hematoma, and thus we closed the incision rapidly and obtained a computerized tomography (CT) scan. The CT scan revealed a large contralateral subdural hematoma (Fig. 2), which subsequently was successfully evacuated.

The development of subdural hematomas as a result of aneurysm rupture has been well described.¹⁻⁴ Bilateral subdural hematomas have been caused by the rupture of an ACoA.⁴ Our case is unique because the contralateral subdural hematoma occurred as a result of an intraoperative rupture. There is no doubt of this causal connection because the massive herniation of the brain coincided, within seconds, with the rupture of the aneurysm. At this

time we were able to suction the blood that emerged through the operative site, but not the blood that was accumulating in the contralateral subdural space. We hope this paper will alert neurosurgeons of this possibility.

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Address reprint requests to: Roberto C. Heros, M.D., Department of Neurological Surgery, University of Miami School of Medicine, 1501 NW 9th Avenue, Miami, Florida. email: rheros@med.miami.edu.

Fig. 1. Right carotid arteriogram demonstrating a downward-pointing ACoA aneurysm and an incidental paraclinoid aneurysm.

Fig. 2. Immediate postoperative CT scans revealing a large contralateral subdural hematoma and the track in the brain through which surgeons proceeded to clip the aneurysm.