Peripheral intracranial aneurysm causing subdural hematoma without subarachnoid hemorrhage

Figure 1 Brain neuroimaging

Nonenhanced axial CT (A) and MRI with axial nonenhanced (B), axial enhanced (C), and sagittal enhanced (D) T1-weighted imaging demonstrates an extra-axial, contrast-enhancing lesion in the left anterior fossa. (E, F) Lateral view of the left internal carotid angiogram reveals a peripheral middle cerebral artery aneurysm.

A 75-year-old man with no history of head trauma presented with a 10-day episode of left forehead heaviness followed by sudden headache and vomiting. Neurologic examinations were unremarkable. Neuroimaging showed left frontal extra-axial lesion suggestive of acute and subacute subdural hematoma (figure 1, A–D). CSF analysis revealed normal cytology and the absence of xanthochromia. An angiogram demonstrated peripheral left middle cerebral artery aneurysm (figure 1, E and F). No echocardiographic or serologic evidence of infectious endocarditis was noted. Craniotomy confirmed cerebral aneurysm surrounded by subdural hematoma (figure 2). After resection, histologic examination documented a ruptured true aneurysm.

Intracranial aneurysm is infrequent in peripheral cerebral artery¹ and a probable cause is infectious endocarditis. The possibility of peripheral cerebral aneurysm rupture should be considered in spontaneous subdural hematoma even with no evidence of subarachnoid hemorrhage.²

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Intraoperative view confirming acute and subacute subdural hematoma (A) and documenting a small peripheral middle cerebral artery aneurysm attaching to dura mater after removal of the surrounding hematoma (B).

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