A 77-year-old man with myelodysplastic syndrome presented with fever and acute renal failure, followed by right-sided hemiparesis, neglect, and aphasia. Neuroimaging revealed a left parietal-occipital ICH with extensive edema. T2-star susceptibility weighted angiography (SWAN) revealed multiple microhemorrhages within the swollen hemisphere (figure 1). Autopsy findings included perivesical/peripelvic abscesses (Rhizopus species) and pulmonary septic thromboembolus. Neurologic deficits resulted from septic emboli/microemboli of this angioinvasive fungus causing focal encephalitis, ruptured mycotic aneurysm, and multiple microhemorrhages (figure 2). Infection from the order Mucorales constitutes mucormycosis.

SWAN imaging delineates microhemorrhages better than conventional MRI (T2 gradient recall echo). Microhemorrhages occur in chronic hypertension, cerebral amyloid angiopathy, septic emboli, cerebral autosomal dominant arteriopathy with subcortical infarcts and leukoencephalopathy, familial CNS cavernous malformations, and other rare conditions.1

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(A) Coronal section of left parietal cortex reveals hemorrhage (white arrow) with surrounding necrosis and edema. (B, C) Microscopic sections show neutrophilic infiltrate and aseptate branching fungal hyphae (black arrows) on hematoxylin & eosin and Gomori methenamine silver stains (black marker = 20 μm).

SWAN MRI revealing multiple microhemorrhages secondary to septic emboli from mucormycosis
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