Subarachnoid Hemorrhage from Mycotic Aneurysms

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Figure 1. Subarachnoid hemorrhage from mycotic aneurysms. (A) CT shows a small amount of blood in the anterior interhemispheric fissure (arrow). (B) MR angiography reveals small aneurysms (arrow) on vessels distal to the anterior cerebral artery. (C, D) After antibiotic therapy, CT and MR angiography show the absence of hemorrhage and aneurysms.

Text

A 77-year-old Japanese man was hospitalized with a 4-month history of recurrent fever and headache. He was diagnosed as infective endocarditis (IE) based on positive blood culture results for streptococcus bovis, and large vegetations on transthoracic echocardiogram. A computed tomography (CT) scan revealed subarachnoid hemorrhage (SAH) localized around the anterior interhemispheric fissure. Magnetic resonance (MR) angiography revealed small aneurysms on the more distal portion of anterior cerebral artery near the surface of the brain (Fig. 1A, B), where the subarachnoid space is narrow to blood extension. The diagnosis of a mycotic aneurysm was suspected on these imaging studies and confirmed by culturing an organism from the blood. Following antibiotic therapy with penicillin G and gentamicin, IE was healed and MR angiography 6 weeks later showed absence of aneurysms (Fig. 1C, D).

Mycotic aneurysm is caused by a septic cerebral embolus that causes inflammatory destruction of the arterial wall and leads to aneurysmal dilatation. The most frequent sites of mycotic aneurysm are the thoracic aorta and cerebral arteries, and intracranial mycotic aneurysms are often located on the distal branches of the middle cerebral artery, involving the secon-
ary and tertiary branches (1-4). This characteristic pattern helps to differentiate them clinically from berry aneurysms, which tend to occur near the circle of Willis at the base of the brain. Mycotic aneurysms are usually very friable and surgical treatment is difficult (3, 4). Even if aneurysms seem to be shrinking after antibiotic therapy, they may subsequently increase, and thus serial angiography is needed to document the effectiveness of medical therapy.

References


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