

ONLINE SUPPLEMENT

Difference of transcranial Doppler velocity and patient age between proximal and distal middle cerebral artery vasospasm after aneurysmal subarachnoid hemorrhage

Clinical management

All patients with subarachnoid hemorrhage (SAH) were admitted to the intensive care unit. The diagnosis of SAH was confirmed by computed tomography. Magnetic resonance angiography and conventional cerebral angiography were performed on admission to investigate the location of the aneurysm. All patients underwent microsurgical clipping or endovascular treatment within 24 h of admission. They were all kept euvolemic or hypervolemic, and they underwent daily transcranial color flow image (TCCFI) monitoring of both middle cerebral arteries during admission to the intensive care unit. The maximum and mean flow velocity at the horizontal part of the MCA on TCCFI was recorded. Single-photon emission computed tomography (SPECT) was performed on days 1 and 7 after SAH. Some patients were treated with a corticosteroid and an anticonvulsant. An antiplatelet (Cilostazol) was orally administered to prevent cerebral vasospasm.¹ The diagnosis of symptomatic vasospasm or delayed cerebral ischemia was made by clinical symptoms, magnetic resonance imaging examination, TCCFI, SPECT, and conventional cerebral angiography. Patients with symptomatic vasospasm were treated with intrathecal administration of corticosteroid and nicardipine, intra-arterial injection of fasudil hydrochloride, and/or angioplasty by balloon device. All patients with symptomatic vasospasm were also treated with induced hypertension until resolution of the vasospasm.

Reference

1. Senbokuya N, Kinouchi H, Kanemaru K, Ohashi Y, Fukamachi A, Yagi S, Shimizu T, Furuya K, Uchida M, Takeuchi N, Nakano S, Koizumi H, Kobayashi C, Fukasawa I, Takahashi T, Kuroda K, Nishiyama Y, Yoshioka H, Horikoshi T: Effects of cilostazol on cerebral vasospasm after aneurysmal subarachnoid hemorrhage: a multicenter prospective, randomized, open-label blinded end point trial. *J Neurosurg* 2013;118:121-130