

Cerebral hyperperfusion syndrome after subarachnoid hemorrhage

Cerebral vasospasm is an uncontrollable and sometimes fatal complication occurring after subarachnoid hemorrhage. However, cerebral hyperperfusion syndrome is a rare complication after subarachnoid hemorrhage. Although plain computed tomography of cerebral hyperperfusion syndrome looks similar to cerebral infarction induced by cerebral vasospasm, they should be distinguished from each other because they require completely different treatments.

A 65-year-old man complained of severe headache and vomiting. A computed tomography scan of his head showed subarachnoid hemorrhage with acute hydrocephalus caused by intraventricular hematoma and aneurysm of the left middle cerebral artery. After endoscopic irrigation of the ventricular hematoma to decrease the intracranial pressure, we performed neck clipping for the ruptured aneurysm. We used a temporary clip to the proximal M1 segment twice for a total of 15 minutes. Five days after the clipping, a computed tomography scan of the patient's head showed a large low-density area in the left cerebral hemisphere. Although cerebral infarction caused by cerebral vasospasm was suspected, his perfusion computed tomography demonstrated a state of hyperperfusion corresponding to the low-density area. We started treatment to prevent vasodilation and excessive cerebral blood flow instead of treatment for cerebral vasospasm. After changing the treatment, the patient's symptoms gradually improved, and his perfusion computed tomography (8 days after surgery) showed no excessive increased blood flow.

Nagashima et al., present a case of cerebral hyperperfusion syndrome and its successful treatment, distinct from that of cerebral vasospasm, after ruptured aneurysm clipping. In addition, we discuss the mechanism of this rare syndrome based on previous reports ¹⁾.

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Nagashima H, Miwa T, Horiguchi T, Tomio R, Nakagawa Y, Yoshida K. Hyperperfusion after Clipping of Aneurysm: A Rare Entity. J Stroke Cerebrovasc Dis. 2018 Jan 17. pii: S1052-3057(17)30643-2. doi: 10.1016/j.jstrokecerebrovasdis.2017.11.024. [Epub ahead of print] PubMed PMID: 29373230.

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