

# Intravenous thrombolysis complications

Intravenous thrombolysis for acute ischemic stroke.

Severe complications after reperfusion therapy for acute major vessel occlusion are not well-described.

Yamaguchi et al., from the Nagasaki Harbor Medical Center, Japan presented an extremely rare case of a patient with rapid malignant brain swelling subacutely after acute ischemic stroke.

An 84-year-old man underwent reperfusion therapy for acute left internal carotid arterial occlusion, and complete reperfusion was achieved. Although magnetic resonance imaging on postoperative day (POD) 1 revealed a small hemorrhagic infarction and subarachnoid hemorrhage (SAH) unrelated to a left middle cerebral arterial aneurysm in the left frontal lobe, neurological deficits resolved completely. On POD 5, the patient developed a fever and sudden consciousness disorder with right hemiparesis. He was diagnosed as having urosepsis, and computed tomography (CT) revealed massive hemorrhagic infarction in the left frontal lobe and diffuse SAH. Emergent hematoma evacuation and clipping were performed. Although the aneurysm was unruptured, brain swelling was severe despite a patent middle cerebral artery. CT performed immediately postoperatively (within 6 hours after preoperative CT) showed severe left brain swelling with midline shift. The patient, unfortunately, died on POD 15.

This case has some similarities to both second-impact syndromes after head trauma and perfusion breakthrough phenomenon. In our patient, initial ischemic damage following reperfusion therapy and damage secondary to sepsis and SAH might have led to rapid malignant brain swelling. Careful management is important for patients receiving reperfusion therapy <sup>1)</sup>.

<sup>1)</sup>

Yamaguchi S, Hamabe J, Horie N, Kishikawa T, Yagi N, Suyama K. A case of rapid malignant brain swelling subacutely after reperfusion therapy for internal carotid arterial occlusion: A case report. World Neurosurg. 2018 Jul 25. pii: S1878-8750(18)31629-2. doi: 10.1016/j.wneu.2018.07.151. [Epub ahead of print] PubMed PMID: 30055370.

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Last update: 2024/06/07 02:53

