

Cerebral postischemic reperfusion injury

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Endovascular treatment of ischemic stroke caused by occlusion of major cerebral arteries is safe and effective option with good clinical outcome of patients. But in some cases, even EVT with fast recanalization and TIC1 3 score, can lead to devastating damage of brain tissue. The reason of paradoxical effect of recanalization is caused by cerebral postischemic reperfusion injury. It is defined as deterioration of ischemic brain tissue which hinders the benefit of recanalization and doesn't lead to tissue reperfusion. The main triggers are distal microembolisation and various cytochemical processes, especially oxidative stress that lead to massive apoptosis of neuron cells. This irreversible process impairs the hematoencephalic barrier (HEB) and causes haemorrhagic transformation of ischemia with malignant oedema and therefore worsens the clinical outcome. We present retrospective analysis on this controversial topic of 173 patients after EVT in our „high volume“ comprehensive stroke center (over 200 EVT per year for stroke) in Trnava, Slovakia from 1.7.2018 to 31.5.2018, from which we identified patients with possible cerebral postischemic reperfusion injury and where we try to identify common features of these patients. Key words: stroke, endovascular treatment of stroke, rt-PA, cerebral postischemic reperfusion injury