

BLOOD-BRAIN BARRIER DISRUPTION DURING ACUTE ISCHEMIC STROKE - THE ROLE OF MATRIX METALLOPROTEINASES AND TIGHT JUNCTIONS PROTEINS

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Abstract

Ischemic stroke is a major cause of death and disability worldwide. Intravenous administration of recombinant tissue plasminogen activator (rtPA) is the only approved pharmacological therapy for patients with acute ischemic stroke. Treatment with intravenous rtPA is associated with increased rates of intracranial hemorrhage. This review discusses recent findings about the changes of the components of neurovascular unit and the alteration of blood-brain barrier during stroke. The analysis provide information in order to identify factors with predictive value for hemorrhagic transformation of ischemic stroke both within or after the thrombolysis time window.

Key words: blood-brain barrier, ischemic stroke, hemorrhagic transformation, neurovascular unit, tight junctions matrix metalloproteinases, occludin, claudin, aquaporin 4

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