

The thesis is focused on brain ischemic injury with an accent on subsequent spontaneous and rehabilitation-induced plastic changes related to motor recovery.

General part of thesis describes cortical anatomy and pathophysiology of brain ischaemia including classification of ischemia, ischemic cascade and reperfusion injury. There is also a chapter about spontaneous plasticity and recovery.

The main part gives a survey of rat models of focal cortical ischemia, of functional assessment and rehabilitation. Results of rehabilitation-induced cortical plasticity are also presented.