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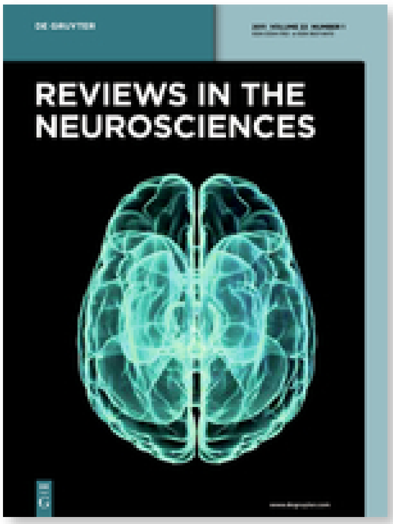

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Remote ischemic conditioning for acute ischemic stroke: dawn in the darkness

Jingrui Pan / Xiangpen Li / Ying Peng ✉

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Abstract

Stroke is a leading cause of disability with high morbidity and mortality worldwide. Of all strokes, 87% are ischemic. The only approved treatments for acute ischemic stroke are intravenous thrombolysis with alteplase within 4.5 h and thrombectomy within 8 h after symptom onset, which can be applied to just a few patients. During the past decades, ischemic preconditioning has been widely studied to confirm its neuroprotection against subsequent ischemia/reperfusion injury in the brain, including preconditioning *in situ* or in a remote organ (such as a limb) before onset of brain ischemia, the latter of which is termed as remote ischemic preconditioning. Because acute stroke is unpredicted, ischemic preconditioning is actually not suitable for clinical application. So remote ischemic conditioning performed during or after the ischemic duration of the brain was then designed to study its neuroprotection alone or in combination with alteplase in animals and patients, which is named as remote ischemic perconditioning or remote ischemic postconditioning. As expected, animal experiments and clinical trials both showed exciting results, indicating that an evolution in the treatment for acute ischemic stroke may not be far away. However, some problems or disputes still exist. This review summarizes the research progress and unresolved issues of remote ischemic conditioning (pre-, per-, and post-conditioning) in treating acute ischemic stroke, with the hope of advancing our understanding of this promising neuroprotective strategy for ischemic stroke in the near future.

Keywords: remote ischemic perconditioning; remote ischemic preconditioning; remote ischemic postconditioning; stroke

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About the article

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