



LECTURE

Neuroprotection in acute ischaemic stroke: beyond revascularization

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Abstract

The past few years have seen radical changes in stroke treatment, particularly, and above all, the development of mechanical thrombectomy as standard of care in selected patients. However, in addition to patients with contraindications to acute reperfusion therapies in acute ischaemic stroke, an important percentage of patients undergoing this type of treatment (including some patients in whom effective recanalization is achieved) do not regain functional independence; hence there is a clear need for the development of new therapies that can respond to these subgroups of patients.

By definition, neuroprotection is any action that result in salvage, recovery or regeneration of the nervous system, its cells, structure and/or function. In acute ischaemic stroke, a complex, coordinated, and interrelated cascade of molecular events follows brain ischaemia and infarction. The concept of neuroprotective agents in acute ischaemic stroke has been a focus of attention over past decades, with many

experimental neuroprotective compounds being tested both preclinically and in humans. Over 1000 neuroprotective agents have been studied in preclinical stroke research, many with promising results. However, translation of these neuroprotective drugs has failed in the clinical setting. Can neuroprotection be the next revolutionary step in stroke therapy? It is possible and even likely but at present, no pharmacological or non-pharmacological treatment with putative neuroprotective actions have demonstrated efficacy in improving outcomes after ischaemic stroke, and therefore, no neuroprotective agent can be recommended at this point.

Thus, this presentation will focus on a set of "simple" and easy to apply measures (in any stroke unit), and whose implementation is clearly associated with an improved prognosis of patients with acute stroke, namely: blood pressure control, correction of hyperglycaemia, optimal oxygen pressure, correction of hyperthermia and patient positioning.

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