PHARMACOLOGIC CYTOTROTECTION OF CENTRAL NERVOUS SYSTEM

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Abstract

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Ischaemia of the central nervous system is considered to be a phenomenon, which manifests after the ischaemic episode and has limited therapuetic possibilities.
Clinical situations in which the oxygen supply may be reduced include the following: stroke and transient ischaemic attacks, subarachnoid haemorrhage before, during and after carotid artery surgery, prolonged cardiopulmonary bypass during heart surgery, head injuries, cardiac arrest: (during arrest and recirculation), aortic surgery, spinal cord ischaemia, severe hypoxia/hypoxaemia, severe hypoperfusion/shock conditions.
Although these clinical conditions are markedly different, they share the major similarities of cell death and its pathophysiology and pathogenesis, to which lies the therapy of CNS ischaemia is aimed.
New cytoprotective drugs for neuronal damage are lazaroids. The 21-aminosteroids are known as inhibitors of lipid membrane peroxidation which preserve post-injural Ca^{2+} homeostasis (after total and focal ischaemia). During the last few years evidence has been accumulated about CCAs brain protection against cerebral ischaemia by a virtue of direct neuronal action. The excitatory amino acid antagonists, barbiturates, corticosteroids, antiepileptic drugs and antioxidants complete the cytoprotective treatment possibilities in situations of reduced oxygen supply for CNS. *(Ref. 17.)*
***Key* words: cerebral ischaemia, cytoprotective treatment, Ca channel antagonists, barbiturates, corticoids, antioxidants, antagonists of excitatory amino acid.**

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