



LECTURE

Early management of paediatric patients with acute ischaemic stroke

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From the Porto University Center of Medicine Stroke Update Course, Porto, Portugal. 20–21 June 2017.

Abstract

Stroke is an acute neurological disease whose recognition in children is a challenge. When diagnosed, it is crucial to evaluate and treat it efficiently and correctly. Presently, information on urgent management of stroke in children has only been exposed in case reports, case series and hospital database documentation. Therefore, our purpose in this presentation is to propose a protocol for better approaching acute paediatric stroke.

Common presenting signs of acute stroke in children include seizures, focal weakness and altered mental status. Considering possible etiologies, cardiac conditions, haematological disorders, trauma, vascular compression, infections, vascular malformations, vasculopathies, metabolic and genetic causes may account for stroke in this population. A differential diagnosis must be made with seizures due to another cause, infectious encephalitis, metabolic disorders and acute disseminated encephalomyelitis.

Once a paediatric patient is admitted with a potential ischaemic stroke, the priorities are controlling vital signs and adjusting analytical and hemodynamic parameters. If a pos-

sible stroke is confirmed by a neurologist (who performed Paediatric NIHSS - National Institutes of Health Stroke Scale), the preferred imaging modalities to be executed are brain computed tomography (CT)/brain magnetic resonance imaging (MRI), CT/MRI angiography and perfusion weighted imaging. All clinical, laboratory and imaging data will then be taken into account to define the eligibility for treatment with tissue plasminogen activator (tPA), always considering the estimated evolution time, a persistent deficit and no tPA contraindications. The role of mechanical thrombectomy in the paediatric group is not clearly settled. However, it may be safe and effective for large vessel occlusions.

During the whole process, neuroprotective measures can be executed and include glycaemia and blood pressure management, seizure control and decompressive hemicraniectomy in selected cases.

This presentation proposes a clinical algorithm for assessment and management of paediatric acute stroke in order to encourage discussion about this subject.

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Citation: Aires, A. Early management of paediatric patients with acute ischaemic stroke. *International Journal of Clinical Neurosciences and Mental Health* 2017; 4(Suppl. 2):L12

Published: 20 Jun 2017



Open Access Publication Available at <http://ijcnmh.arc-publishing.org>

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