



## LECTURE

# Paediatric Stroke

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

### Abstract

Although stroke is often viewed as occurring mainly in adults, it also strikes children, adolescents and can also arise in foetal life. The incidence of paediatric stroke is estimated at 1.6 out of 100,000. The incidence rate increased in the last decades mainly due to more sensitive diagnostic tests such as magnetic resonance imaging and increased survival in previously lethal paediatric diseases that predispose to stroke (congenital heart disease, malignancies and sickle cell disease). Black children and those in the first year of life (particularly in the perinatal period) are at higher risk for stroke.

Clinical presentation of childhood acute ischaemic stroke (AIS) differs from adults due to a great frequency of seizures and non-focal neurological signs (irritability, headache and altered mental state).

Stroke risk factors for children are also different than those for adults. About half of the children presenting with a stroke had a previously identified risk factor (for example, sickle cell disease or congenital heart disease). Other risk factors

for stroke in children include vasculopathy, infection, trauma and prothrombotic conditions. Arteriopathy, including focal or transient cerebral arteriopathy, primary angiitis of the central nervous system, arterial dissection, Moya-Moya syndrome and genetic arteriopathies are present in >50% of children with AIS. Therefore, vascular imaging is essential for accurate identification and classification of arteriopathy in children with stroke.

Childhood stroke has a mortality of 5% to 10% and is among the top 10 causes of death in children, but may be declining. More than 50% of childhood stroke survivors have long-term moderate to severe neurological impairment or epilepsy.

Stroke symptoms, risk factors, prevention strategies, and treatment differ between children and adults. However, as in adults, there is a need for timely diagnosis and treatment and age appropriate rehabilitation to minimize sequelae. In addition, more research is needed to better understand the unique aspects of diagnosing and treating stroke in children.

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Citation: Garrido, C. Paediatric Stroke. International Journal of Clinical Neurosciences and Mental Health 2017; 4(Suppl. 2):L11

Published: 20 Jun 2017



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

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