PEDIATRIC STROKE : A STUDY OF 20 CASES

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Background

Stroke is a neurological injury caused by the occlusion or rupture of cerebral blood vessels.

Stroke is relatively rare in children, but can lead to significant morbidity and mortality. The aim of our study was to analyse the epidemiology, clinical presentation, causes, and management of pediatric stroke.

Methods

Our study was retrospective and descriptive over a period of 16 years (2002-2017).

Results

• **20 patients** were involved . 15 patients were male.

• **the mean age** was 5 years and 6 months.

interval of **16 to 25 hours** from symptom onset to stroke

Diagnosis is reported .

• **Common clinical features** were : seizures in new born and infants and focal neurological deficits in older children.

• **Physical examination** showed altered Mental status (5 cases), hemiparesis (10 cases) pyramidal syndrome (4 cases).

• **Neuroimaging** (emergent Noncontrast CT in 70 % of cases) identified arterial ischemic stroke (AIS) (9 cases) , 10 cases of cerebral sinovenous thrombosis (CSVT), and one case of hemorrhagic stroke (HS).

• **Outcomes** vary :epilepsy (2 cases) , parmanent neurological deficit (3 cases).

• **Recurrence** was noted in 2 cases

• **7 patients** had died.

FLAIR T2

ARM

Moya moya syndrome

Comments

• Stroke is among the top 10 causes of death in children and is a significant cause of childhood disability.

• The common causes of pediatric stroke are vasculopathy , infection and cardiac disorder . [1]

• Studies recommend the first-line use of MRI in the emergent evaluation of pediatric stroke .

Noncontrast CT of the head is an acceptable alternative to exclude hemorrhage especially in developing countries Vascular imaging was less frequently undertaken. [2,3]

• In developing countries We aim to design a Pediatric Stroke Alert system and pediatric stroke centers. [3]

Conclusion

• Early recognition of pediatric stroke should lead to more rapid neurological consultation, imaging, treatment, and improved outcomes

• However, because the incidence is still low relative to adult strokes, and children are distinctly different from adults, it remains a challenge to create evidence based diagnostic and treatment guidelines.

etiologies of AIS

■ MOYA MOYA syndrom ■ congenital heart disease
■ antithrombine deficiency ■ carotid dissection
■ acute lymphoblastic leukemia ■ idiopathic

• **CSVT** was caused by infection in 80 % of cases : otomastoiditis (1 case) , meningitis (4 cases), ethmoiditis (1 case).

• **the HS** was idiopathic.

• **Drug treatments** involved anticoagulants antiplatelet agents and antibiotics.

• none of our patients was treated with IV thrombolysis.

• **Mean hospital stay** was 16 days.

Sources:

[1] Mackay MT, Wiznitzer M, Benedict SL, et al. Arterial ischemic stroke risk factors the International Pediatric Stroke Study. Ann Neurol 2011.

[2] Steilin. Neuroopediatrics. 2012

[3] Timothy J. Bernard, preparing for a « Pediatric stroke Alert »