

Cryptogenic Paediatric Stroke

Mridu Bhaskar¹, Rajesh Bhaskar², Priya Govil³, Kishalay Datta⁴

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ABSTRACT

Stroke or cerebrovascular accident is a rare entity in children.

Commonly considered to be a disease of the elderly, it accounts for high morbidity and mortality in children.

Despite an increased incidence 1.2 To 13 cases per 100,000 children under 18 years of age there is a delay in diagnosis leading to long term complications and neurological deficits.

Keywords: Stroke; Cerebrovascular Accident; High Morbidity; Mortality; Neurological Deficits.

INTRODUCTION

Paediatric strokes although a rare finding is more commonly found in boys than girls. More in black population than whites.

Common causes include vasculitis, cardiac, haematological (sickle cell disease), vascular

(Arterio-Venous Malformation), Infections (Varicella, Hiv), Oncological, Trauma, Drugs (Amphetamines, Cocaine, Ecstasy).

Most Common Presentation Focal Neurological Deficits (Hemiparesis)-94%.

Altered Mental State-28%, Headache-22%, Seizure-16%, Speech Disorder.

Author Affiliation: ¹Post Graduate 3rd Year, Department of Emergency Medicine ²Department of Emergency Medicine, District Hospital, Laxmangarh Sikar, Rajasthan 332311, India, ³Senior Consultant, Department of Emergency Medicine, Max Hospital, Shalimar Bagh, New Delhi 110088, India.

Corresponding Author: Priya Govil, Senior Consultant, Department of Emergency Medicine, Max Hospital, Shalimar Bagh, New Delhi 110088, India.

E-mail: priyasharma5@gmail.com

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CASE

10 Year male child came to emergency department at 12:50pm accompanied by father with complaints of difficulty in walking, difficulty in vision of right eye associated with slurring of speech and deviation of angle of mouth since 10 am. Child also had 1 episode of non bilious, non projectile vomiting. No history of fever, seizure, recurrent vomiting, trauma / fall, ear/ eye discharge, drug use. No known comorbidities.

On examination, vitals were

HR: 110/minute

RR: 22/minute

SpO₂: 98% on room air

BP: 110/70 mmhg

RBS: 84 mg/dl, hydration good

Pupil: b/l equal and reacting to light

CVS: s1 s2 heard, abdomen soft, non tender, bowel sound heard

GCS: e4 v5 m6, conscious oriented to time, place, person

Chest: b/l air entry equal.

On neurological examination: Child had ataxic/swaying gait, slurring of speech, sensations in all 4 limbs were normal, was moving all 4 limbs with power 5/5 in all 4 limbs, ocular movement in both eye normal, blurring of vision was noted in right eye.

A provisional diagnosis of cerebrovascular accident/transient ischaemic attack/seizure was made.

Child was sent for MRI brain to identify the cause.

On MRI brain diffusion restriction was noted

in right medial thalamus with no evidence of increased signal intensity at t2/flair sequences s/o hyperacute infarct. T2/flair cortical and subcortical hyperintensity with hypointense signal on t1w sequence was seen in left medial parietal and occipital lobes s/o chronic infarct. MRI angography of brain and neck revealed no significant abnormality.

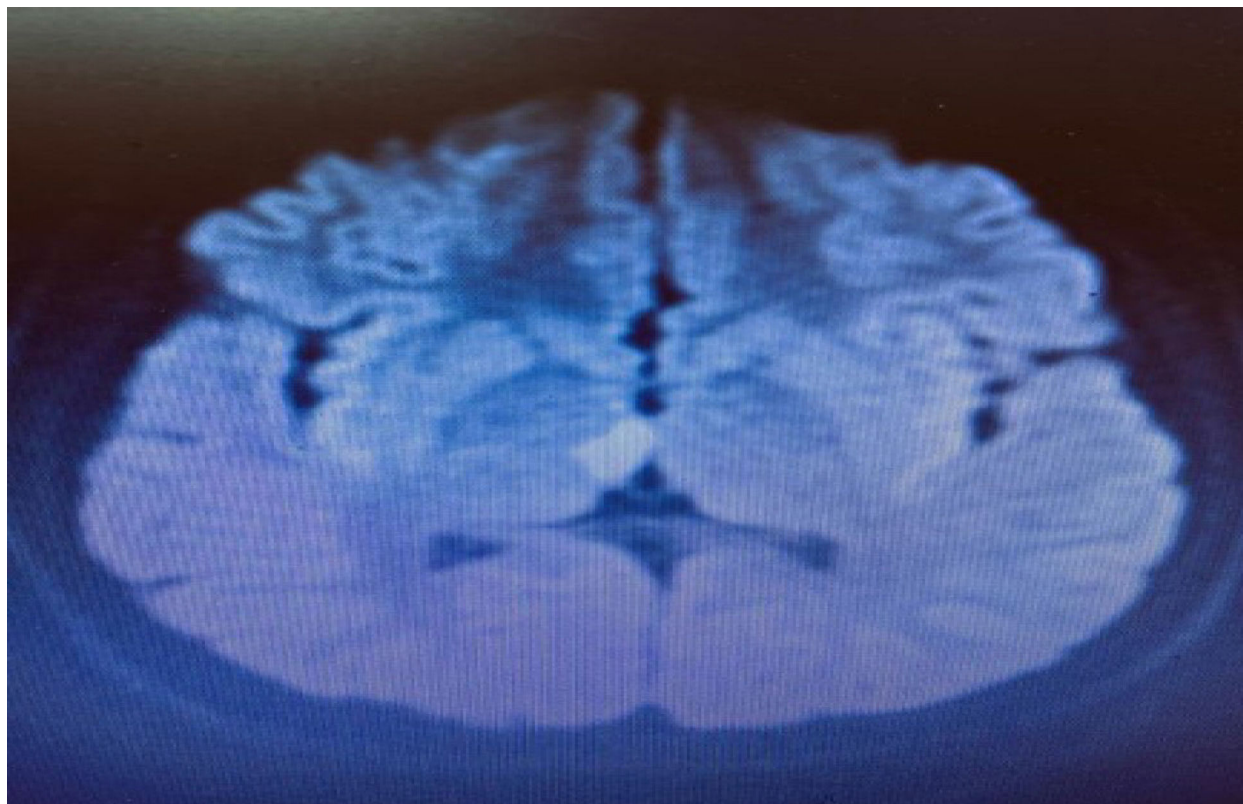
MRI brain: acute right medial thalamic infarct

Child was managed conservatively on tablet ecosprin, tablet rosuvas and injection enoxaparin was also given.

Patient was admitted in picu and all investigations were sent to identify the cause of stroke. Ana and vasculitis studies showed negative result, homocysteine levels were in normal range complete blood count, liver function and kidney function test were normal. Serum lactate and pyruvate levels were normal, thrombophilia profile reported normal report.

No primary cause of acute stroke was established and the cause was found to be idiopathic or cryptogenic.

Patient was managed conservatively, physiotherapy was also done. Patient responded well to treatment vision and gait disturbance improved.



Patient was stabilised and discharge in stable condition after 4 days on medications and advised regular follow ups.

DISCUSSION

Strokes in children warrant a more aggressive intervention, early diagnosis and treatment. Vascular and haemorrhagic causes are the leading causes.

Idiopathic stroke are a rare finding. Medical management includes administration of low molecular weight heparin, antiplatelet therapy, vasodilator and anticonvulsant therapy may additionally be added to prevent seizures. Surgical evacuation in cases of haemorrhagic stroke and further may also require by thrombectomy.

CONCLUSION

10 Year old male child with ataxic gait and visual disturbance was evaluated and diagnosed with acute right medial thalamic infarct. All

blood investigations were done and no cause was identified as causative factor for stroke.

Patient was diagnosed with acute cryptogenic/idiopathic infarct in right medial thalamus.

He was managed conservatively and discharged in stable condition on antiplatelet medications.

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