

bleeding tendencies during the peripartum state are the treatment goals. Maternal hygiene, environmental hygiene, mosquito control remains the mainstay in prevention and transmission of dengue fever.

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## Right Middle Cerebral Artery Infarct after Minor Head Trauma in an Infant

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### How to cite this article:

Shubham Tripathi, Arnab Nag, Indranil Das/Right Middle Cerebral Artery Infarct After Minor Head Trauma in an Infant/  
Indian J Emerg Med 2023;9(3):95- 104.

### Abstract

Ischemic stroke (IS) in the pediatric population is extremely rare. In this age group, the occurrence of IS often concurs with underlying congenital heart disease, haematological, metabolic or immunological conditions. In contrast, the association between IS and minor head injury in children has been sparse. The authors report a case of a healthy 10 yrs 8 months old male who was found to have a right middle cerebral artery territory infarct. An extensive medical workup was performed, and it was negative for any previously undiagnosed comorbidities. Given the paucity of such cases, the condition and its management are discussed in corroboration with current literature.

**Keywords:** Stroke in Children; Ischemic CVA; Hemiparesis; Ischemic Stroke.

## INTRODUCTION

The incidence of ischemic stroke (IS) in pediatrics is rare. Conversely, in the aging population, strokes are common with well established risk factors associated with IS include nutrition, hypertension, coagulopathy disorders, carotid stenosis, and patent foramen ovale.<sup>1</sup> However, in young adults, the list of potential stroke causes is extensive. According to the *Toast*

(Trial of Org 10172 in Acute Stroke Treatment) criteria, both strokes of undetermined and of other determined etiology are the most common types among them.<sup>2</sup> Broadly speaking, causative factors in children can be similar to young adults where by the diagnosis is often linked to a background of congenital heart disease, haematological and, or immunological conditions. Interestingly, there have been reports of IS associated with head injury in patients less than 12 months of age.<sup>3</sup> The authors describe the case of a 10 year 8 months - old child who developed progressive unilateral hemiparesis secondary to a left middle cerebral artery (MCA) territory infarct, etiology unknown. Given the infrequency of such cases, the condition is discussed in corroboration with current literature.

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**Received on:** 25-03-2023

**Accepted on:** 23-04-2023

## CASE REPORT

A previously well 10 year 8 months male of non-consanguineous parents presented to the

Emergency Department. According to the history, there was sudden onset of headache more on right side of head since 2 days, associated with vomiting, left upper limb of weakness, gradually involving left lower limb. Complaint of slurring of speech with deviation of mouth on right side with dribbling of saliva. No loss of consciousness was observed. Physical examination demonstrated that he had a full Glasgow Coma Scale with bilaterally equal and reactive pupils, child was able to understand what we talk as well able to talk but in slurred speech. There was normal extraocular movement. No scalp hematoma, significant skin swelling or bruise was noted. However, his left upper limb demonstrated motor power 2 out of 5 and lower limb 3 out of 5. Muscle tone in right limbs was normal but was reduced in left upper and lower limb. He was admitted for close neuromonitoring. On the following day, he was found to have progressed left lower limb weakness (power 2 out of 5) associated with hypertonia and hyper reflexia. In addition, there was no clinical improvement of his previously documented left upper limb weakness. No neurological deficit observed on his right side. Child had a facial deviation on right side. The remainder of his cranial nerves was intact.

Cl-	104
Lactate	8.6
HCO3-	20.7

A CT Scan (Fig. 2, 3) was done which showed a wedge shaped hypodensity involving right fronto-temporo-parietal region suggestive of acute infarct in right MCA artery, there was no hemorrhage seen.

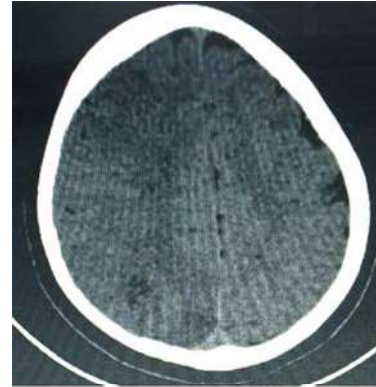


Fig. 2

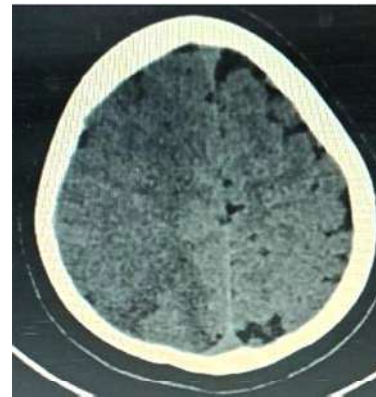


Fig. 3

Identifications			
Patient ID	869382		
Department (Pat.)	PICU/44		
Patient Last Name	[REDACTED]		
Patient First Name	[REDACTED]		
Sample type	Arterial		
T	37.0 °C		
Blood Gas Values			
pH	7.309		[ 7.350 - 7.450 ]
pCO <sub>2</sub>	43.5	mmHg	[ 35.0 - 45.0 ]
pO <sub>2</sub>	110	mmHg	[ 80.0 - 100 ]
Oximetry Values			
ctHb	12.8	g/dL	[ - - ]
so <sub>2</sub>	98.7	%	[ - - ]
FO <sub>2</sub> Hb <sub>e</sub>	97.9	%	[ - - ]
FI <sub>2</sub> Hb <sub>e</sub>	1.3	%	[ - - ]
Electrolyte Values			
cK <sup>+</sup>	3.6	mmol/L	[ 3.5 - 4.5 ]
cNa <sup>+</sup>	132	mmol/L	[ 135 - 145 ]
cCa <sup>2+</sup>	1.18	mmol/L	[ 1.12 - 1.32 ]
cCl <sup>-</sup>	104	mmol/L	[ 98 - 107 ]
Metabolite Values			
cLac	8.6	mmol/L	[ 0.4 - 2.2 ]
Temperature Corrected Values			
pH(T)	7.309		
pCO <sub>2</sub> (T)	43.5	mmHg	
pO <sub>2</sub> (T)	110	mmHg	
Oxygen Status			
ctO <sub>2e</sub>	17.7	Vol%	
p50 <sub>e</sub>	29.23	mmHg	
Acid Base Status			
cBase(Ecf)c	-4.1	mmol/L	
cHCO <sub>3</sub> TP st/c	20.7	mmol/L	

An ABG (Fig. 1) was done upon arrival to ED.

pH	7.309
PCO2	43.5
PO2	110
K+	3.6
Na+	132

An Magnetic Resonance Imaging (MRI) brain (Fig. 4, 5) reported restricted diffusion in the right fronto-temporo-parietal regions, in keeping with a right MCA territory infarct. Diffuse thinning of right MCA and intracranial segments of right ICA suggested Vasculitis/Moya disease. No midline shift, hydrocephalus or effacement of the basal

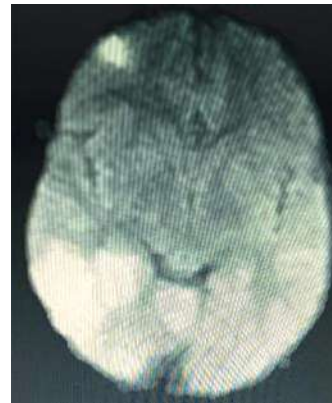


Fig. 4