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Case report

SPORADIC HEMIPLEGIC MIGRAINE: A RARE PRESENTATION IN CHILDREN

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ABSTRACT

We report a 12 year old girl with a history of migraine presenting with recurrent episodes of hemiparesis preceded by headache, which fulfilled the diagnostic criteria for sporadic hemiplegic migraine in ICHD – 2 [international classification of headache disorders 2].

Key words: Childhood, headache, migraine, recurrent hemiplegia.

INTRODUCTION

One of the commonest causes of headache in children is migraine. Hemiplegic migraine is a rare condition often linked to a genetic abnormality. The symptoms of which include temporary weakness along one side of the body which can last from 5 minutes up to several days accompanied by sensory symptoms in the form of tingling and numbness, speech disturbances and visual symptoms. Severe headache is almost always associated. Hemiplegic migraine comes under “migraine with aura” and is further classified into Familial and Sporadic by the international headache society.¹

CASE REPORT

12 year old right handed girl presented at our hospital (Meenakshi medical college and research institute) with weakness of left upper and lower limbs on awakening from bed in the morning. She had a history of severe throbbing left sided headache preceded by aura in the form of visual perceptions the previous day after returning from school, which was followed by heaviness and pain on the left side of the body. She took some analgesics and slept. She had

been suffering from migraine with aura once or twice a week for the past 3 years for which she was not on any regular medications. The headache was precipitated by stress, lack of sleep and relieves with sleep or some analgesics. There was no history of seizures, fever, head trauma, loss of consciousness, or congenital heart disease in the past. The child's mother was known to suffer from migraine during her childhood.

Examination revealed a left upper motor neuron type of facial palsy with left hemiparesis with a power of 2/5. She was unable to speak. No signs of raised intracranial tension were seen. Fundus examination was normal. Following admission she recovered within few hours without any medical intervention. She suffered from a similar episode on the next day while she was eating, which lasted for 15 minutes, which was not preceded by headache, followed by uneventful recovery.

Investigations revealed a normal hemogram, renal function test, lipid profile and coagulation profile. ANA was weakly positive while dsDNA was negative. Normal pyruvate, lactate and creatinine

phosphokinase. Normal protein C, protein S, and antithrombin III. Cerebro-spinal fluid analysis was normal. Her Electrocardiogram and cardiac imaging were normal. EEG (electroencephalogram) was normal. Contrast enhanced MRI (magnetic resonance imaging) with MR angiography revealed no abnormality. Carotid vertebral Doppler was normal.

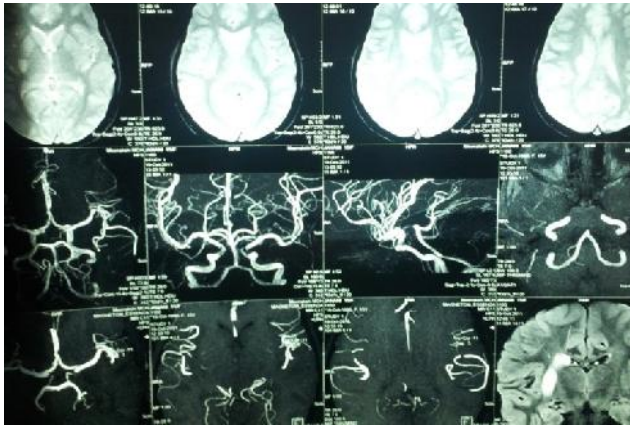


Fig 1: MRI with MRA taken at the time of admission which was normal

DISCUSSION

A diagnosis of sporadic hemiplegic migraine was made after ruling out other possibilities. Differential diagnoses include stroke, Alternating hemiplegia of childhood, Familial hemiplegic migraine, Todd's palsy, mitochondrial encephalopathy with lactic acidosis and stroke-like episode (MELAS), vasculitis, hypercoagulation states, Moya Moya² disease and sickle cell anemia^{3,4}.

Space occupying lesions and Structural/vascular anomalies were ruled out as the neuroimaging studies were normal. Cardiac anomalies were ruled out as the child did not present with any history suggestive of cardiac disease and cardiac evaluation was normal. Todd's palsy was ruled out as the patient did not present with seizures and EEG was normal. Alternating hemiplegia in childhood (AHC)^{5,6} was ruled out as they present during the infantile period with a high prevalence of associated neurological abnormalities which worsen with age. MELAS were not considered as they present with stroke, muscle weakness in between attacks and high lactate/ pyruvate level⁷.

Familial hemiplegic migraine has an autosomal dominant mode of inheritance, however, in the present case, though there is a family history of 1st degree relative suffered from migraine there was no motor weakness. The genes associated with FHM are CACNA1A, A

TP1A2, and SCN1A⁸.

SHM attacks may include confusion, hemiparesis, hemisensory symptoms, fever, lethargy and dysphasia. SHM, attacks usually have all 4 of the typical aura symptoms, including visual, sensory, dysphasic and motor symptoms with the most common being visual disturbance³. It is noted that the motor weaknesses were usually one sided and most often involving the upper limbs. The diagnostic criteria are laid down in ICHD-2. The patient was started on antimigraine prophylaxis with propranolol, and is under regular follow up with us for more than a year, during which no further episode occurred.

CONCLUSION

The diagnostic criteria for hemiplegic migraine (familial and sporadic) has been laid down by the international classification of headache disorders in 2004.¹ The diagnosis of sporadic hemiplegic migraine is usually made after ruling out other possible causes. The treatment of acute SHM attacks as well as prevention in children still remains an unresolved issue.

Competing interest – none stated

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