Thiamine deficiency presenting as paraplegia in a child

Iqbal MM, Eskian M , Anilkumar A.

Department of Neurology, SUNY Upstate Medical University, Syracuse, NY, USA

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INTRODUCTION

This is a case of a child with autism and restricted food intake presented as sub-acute paraplegia diagnosed with neuroimaging and serum testing as Wernicke's encephalopathy and effectively treated with Thiamine.

METHODS/CASE

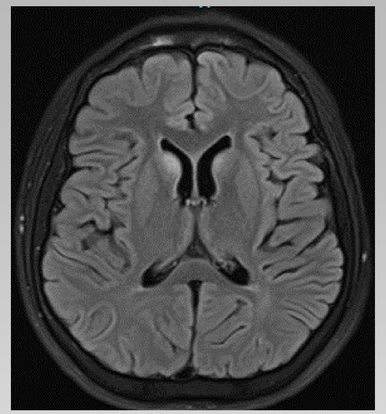
A 16-year-old nonverbal boy with autism spectrum disorder, previously fully ambulatory, presented with a loss of weight of 36 kilograms in 6 months. The patient had decreased intake and his diet was restricted to corn puffs.

He developed progressive flaccid weakness in both legs over a month.

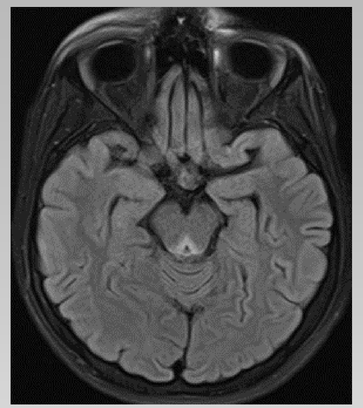
Examination showed a non-verbal boy with no interaction, otherwise alert. No cranial nerve palsies, diffusely low appendicular tone, grade 1 power in legs, grade 3 power in arms, areflexia in legs, and hyporeflexia in the arms.

Laboratory testing showed low Thyroid hormones, low CK, high C-reactive protein, lactate dehydrogenase, ESR; negative tickborne pathogen serology; high B12, normal folate; lactate, pyruvate. B1(Thiamine) level low (21.7 nmol/L, range 66.5-200).

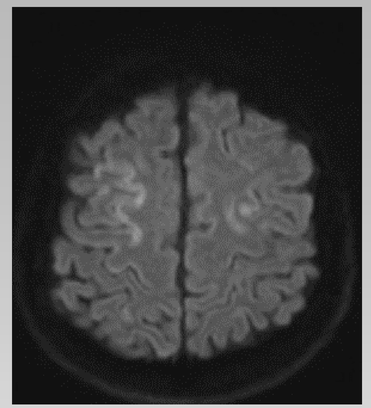
MRI BRAIN



FLAIR hyperintensity in the caudate heads



FLAIR hyperintensity in the periaqueductal region



Restricted diffusion in the frontal cortices

MRI brain showed FLAIR hyperintensity in the caudate heads, medial aspect of bilateral hypothalami, periaqueductal region of the midbrain, and restricted diffusion in frontal cortices. (See figure)
The spine MRI was normal.

RESULTS

Based on the MRI features suggestive of Wernicke's encephalopathy, the patient was started on high-dose thiamine with significant improvement in his mental status and return of ability to ambulate.

CONCLUSIONS

Paraplegia is an atypical presentation of Thiamine deficiency though rarely reported in adults.

Consideration of this in differential especially in children with intellectual disabilities is crucial for timely treatment.

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