

Acute Encephalopathy in a Child with Threadworm Infection Treated with Mebendazole

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Dear Editor,

Threadworms (*Enterobius vermicularis* or “Pinworms”) are thin white roundworms that live in the distal gastrointestinal tracts of humans¹. They are one of the most common helminthic infections worldwide and are seen most frequently in school-aged children¹. They can be transmitted either via fecal-oral route, environmental surfaces or food². Infected hosts can be asymptomatic, may have pruritus ani or notice small worms in their stools¹. Treatment is usually a single dose of an anti-helminthic drug followed two weeks later by a second dose¹. This regime is effective in >90% of cases. Mebendazole is one such anti-helminthic drug.

An 11 year old previously well boy presented to the Emergency Department in Portlaoise Hospital with an acute confusional episode. He had been diagnosed with threadworms the previous day and had taken a 100mg mebendazole tablet that morning. Ninety minutes after ingestion he complained of blurred vision and then became disorientated, distressed, lethargic, and pale. He was responsive to voice and needed assistance mobilising due to unsteadiness and dizziness. He did not recognise his family.

His GP referred him to the Emergency Department (ED) where on arrival, four hours post-ingestion, he was pale, alert, disorientated and vomited once. There was no history of head injury nor infectious or meningitic signs or symptoms. Pupils were equal and reactive, fundoscopy was normal and there was normal tone, power, and reflexes in all four limbs.

A venous blood gas (VBG) showed mild respiratory alkalosis consistent with hyperventilation. The rest of the VBG was normal including blood glucose and lactate. ECG showed normal sinus rhythm. He was commenced on IV fluids, IV cefotaxime and IV acyclovir. TOXBASE was consulted who reported dizziness and headache as possible side-effects - there was one previous case of a 57 year old man developing paranoid symptoms after mebendazole treatment.

Baseline bloods results were normal. Blood cultures, meningococcal PCRs and urine toxicology were negative. His past medical history was unremarkable, with no developmental concerns or relevant family history. His symptoms improved over a few hours. Overnight he complained of frontal headache on movement or standing. There was concern regarding a possible brief decrease in power in the left hand however this resolved quickly.

Following a normal MRI brain and blood results, all anti-microbials were stopped. He was discharged home after a further 48 hours of observation during which he remained well. He was followed up four weeks later as an outpatient. He has remained well since with a normal neurological exam and no further unusual episodes.

Acute encephalopathy secondary to ascariasis is rare but has been described in several case reports^{3,4}, responding to anti-helminthic treatment. However, in this case the temporal relationship between mebendazole ingestion and onset of symptoms is suggestive of a drug-induced cause. The Summary of Product Characteristics (SPC) for mebendazole states that dizziness or convulsions are rare undesirable side-effects. In this case, in the absence of all other causes, it must be presumed that this was either a helminthic or anti-helminthic drug induced event.

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