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Highlights

• We presented a probable imported case of poliomyelitis to Malaysia from a non-endemic area. • This poses a significant public health threat particularly in the certified poliomyelitis free countries and a potential poliomyelitis outbreak. • We emphasize the importance of having a high vigilance of the possibility of wild polio importation and keeping abreast with latest news of global poliomyelitis outbreaks.
Short Communication

A probable imported case of poliomyelitis in Malaysia

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Abstract

We report a previously well 10-month-old Somali girl who acquired asymmetric lower limb weakness in July 2013 in Mogadishu, Banadir, before arriving in Malaysia at 12 months of age. In May 2013, there was a wild poliomyelitis outbreak in the area, as reported by the World Health Organization. A laboratory investigation including cerebrospinal fluid was unremarkable, and electrophysiological studies showed active axonal denervation in the left lower limb. The whole spine T2-weighted MRI revealed non-enhancing hyperintensities of the bilateral anterior horn cells, predominantly over the left side at T11–12. The viral isolations from two stool specimens at her presentation to our centre, 2 months after the onset of illness and 2 weeks apart, were negative. Despite lacking the acute virological evidence of poliomyelitis, in view of the girl’s clinical, electrophysiological and classical spinal neuroradiological features, together with her temporal relationship with a World Health Organization reported wild poliomyelitis outbreak, we believe these findings are consistent with a diagnosis of imported poliomyelitis. A review at 30 months of age showed persistent left lower limb monoplegia with little recovery. Our patient reiterates the importance of maintaining awareness of the possibility of wild polio importation, and keeping abreast of the latest news of global poliomyelitis outbreaks when treating patients with flaccid paralysis, even if they arrive from non-endemic poliomyelitis areas.

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1. Introduction

Poliomyelitis was endemic worldwide and affected millions of people before the advent of effective vaccination. The launch of the global poliomyelitis eradication initiative in 1988 dramatically decreased the incidence of poliomyelitis by more than 99%, and poliomyelitis is no longer regarded as a threat to public health in many certified poliomyelitis-free countries. The diagnosis of paralytic poliomyelitis is typically overlooked in these medical communities, despite the ongoing endemics though Nigeria, Pakistan and Afghanistan.

2. Case report

A previously well Somali girl presented with acute flaccid paralysis following a febrile illness at the age of 10 months (July 2013) in Mogadishu, a region of Banadir, Somalia. She developed weakness of the left upper and lower limbs and was admitted to a local hospital. The weakness of her left upper limb gradually recovered, but her left lower limb weakness persisted. She had an incomplete immunisation history, and had only received one dose of oral polio vaccine at 1 month old. At 12 months of age (September 2013), she was brought to Malaysia for medical attention at the Paediatric Neurology Unit of the University of Malaya Medical Centre. Her neurological examination revealed a flaccid left lower limb with 0/5 strength. The reflexes in her right knee and ankle were absent. The tone and strength of her right lower limb were normal. She had hyporeflexia of the right knee, but normal reflexes in her right ankle. Her anal tone, upper limb function and cranial nerves were normal.

A laboratory investigation including cerebrospinal fluid was unremarkable. Two stool specimens, at presentation to our centre and two weeks apart, were sent for viral isolation and were negative. The nerve conduction studies showed absent left common peroneal motor compound muscle action potential (CMAP), recorded at the extensor digitorum brevis, and markedly diminished amplitude of the left tibial CMAP, recorded at the ankle and knee, with a mild reduction of conduction velocity and normal distal latency. Her right tibial and common peroneal nerves were within the normal limits. F waves were absent in the left common peroneal and tibial nerves, and were prolonged in the right common peroneal nerve. Electromyography of the left tibial anterior,
medial gastrocnemius and vastus medialis revealed an increased insertional activity, with abundant positive sharps and fibrillation potentials. These electrophysiological features suggested active axonal denervation in the left lower limb. The whole spine T2-weighted MRI revealed non-enhancing hyperintensities of the anterior horn cells bilaterally, with a left sided predominance at T11–12 (Fig. 1). At 30 months of age, her follow-up revealed left lower limb monoplegia with little recovery.

3. Discussion

In view of our patient’s clinical, electrophysiological and neuro-radiological features, together with her temporal relationship to a World Health Organization reported wild poliomyelitis outbreak in May 2013, we believe these clinical findings are consistent with a diagnosis of poliomyelitis [1]. Although we lacked the virological evidence of polio from the stool samples, the possibility of poliomyelitis could not be completely excluded.

Stewardson et al. reported that an index of suspicion for imported poliomyelitis was only raised after the typical MRI changes in the anterior horn cell region (similar to our patient) were noted in a Pakistani student in Australia in 2007 [2]. In addition, an outbreak of poliomyelitis in Xinjiang, China, due to importation of wild poliovirus, highlighted that countries in the Asian region remain at risk of poliomyelitis [3]. In Malaysia, the last reported poliomyelitis patient was in 1992, and was caused by importation of wild poliovirus from the Indian subcontinent [4]. Our patient reiterates the importance of maintaining awareness of the possibility of wild polio importation, and keeping abreast of the latest news of global poliomyelitis outbreaks when treating patients with flaccid paralysis, even if they arrive from non-endemic poliomyelitis areas.

Conflicts of Interest/Disclosures

The authors declare that they have no financial or other conflicts of interest in relation to this research and its publication.

References