Dengue Cerebellitis in an Adult Male: A Case Report & Literature Review

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Abstract

Introduction

Purely cerebellar syndromes complicating dengue fever in an adult patient with risk factors for stroke are rare. Our literature review identified only 5 other similar cases, all from tropical countries.

Case

This is a case of a 36-year old hypertensive and dyslipidemic Filipino male treated as a case of dengue fever. On the fourth day of his illness, he suddenly presented with cerebellar symptoms. Neuroimaging done was negative. His dyslipidemia and hypertension were managed accordingly with medications. His dengue was managed with IV fluid hydration and serial full blood count monitoring. All of his neurologic symptoms resolved spontaneously within 2 weeks.

Discussion

Dengue fever can manifest with neurological features ranging from 0.5% to 21% of in-hospital cases. In multiple case reports, patients with dengue cerebellar syndrome all recover spontaneously without permanent neurological sequelae. Five out of the six known cases, including that of our patient had unremarkable neuroimaging findings.

The exact pathology of neurological syndromes in dengue fever are yet to be established. However, due to the positive serum Immunoglobulin M (IgM) of the subjects, we can conclude that this may be immune-mediated. Another possible pathology is the direct invasion of the virus. However, the predilection for the cerebellum is not yet known.

Conclusion

Physicians should be made aware of such complications as dengue is epidemic in our setting. Since dengue causes a hyper-coagulable state with a higher risk for stroke, stroke should still be ruled out by neuroimaging.

Image

Figure 1

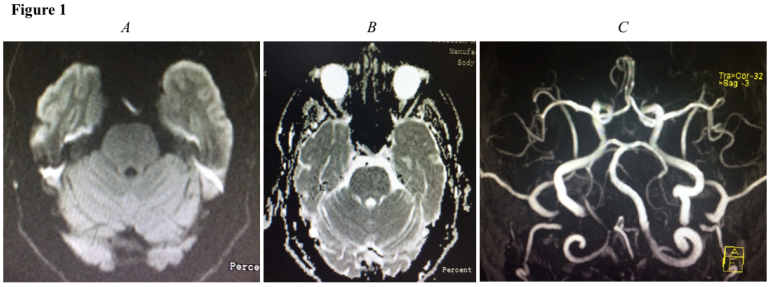


Figure 1.*A* diffusion-rated magnetic resonance imaging (DWI) and Figure *1.B* apparent diffusion coefficient (ADC) of the plain cranial MRI of our patient taken 48 hours post-onset of cerebellar symptoms and on day 4 of illness. No abnormal signals were seen in the cerebellum, midbrain and pons.

Figure 1.*C* magnetic resonance angiogram (MRA) of the patient taken at the same time as the MRI showing no evidence of aneurysm, stenosis or vascular malformations.

Table

Table 1
Summary of the 6 cases of dengue cerebellar syndrome

	Age	Sex	Phase of Presentation	Cerebellar Sign	Dengue Serology	Cranial MRI	Duration of Complete Recovery
Weeratunga et al.[5]	40	Female	Critical	Dysarthria, bilateral nystagmus, bilateral limb and gait ataxia	IgM positive	Normal	2 weeks
Weeratunga et al.[5]	28	Male	Post Recovery	Bilateral vertical and horizontal nystagmus, gait ataxia	IgM positive	Normal	1 week
Weeratunga et al.[5]	25	Male	Febrile	Bilateral nystagmus, dysmetria, severe ataxia	IgM positive	Bilateral and symmetrical T2 hyperintense lesions in the cerebellum	2 weeks
Withana et al.[6]	45	Female	Febrile	Scanning dysarthria, horizontal nystagmus, bilateral dysmetria, dysdiadochokinesia more prominent on the right, ataxia, tendency to fall to the right	NS1 positive and IgM positive	Normal	17 days
Khoo[7]	60	Male	Recovery	Nystagmus in all directions, bilateral dysmetria more prominent on the left, ataxia	IgM positive	Hyperintense signals in the right corona radiate and left frontal lobe suggestive of his previous stroke	34 days
Apostol et al.	36	Male	Febrile	Scanning speech, bilateral horizontal nystagmus, ataxia, positive for wrist tapping and positive for arm pull test	NS1 positive	Normal	2 weeks

Biography

Kathrine Bernadette Apostol is a 1st year Neurology resident at The Medical City, Pasig City, Philippines. She first became interested in Neurology during her second year in medical school and has pursued her dream of becoming a neurologist in her home country. Her mentor and co-author, Dr Artemio Roxas Jr, is a practicing neurologist and a former president of the Philippine Neurological Association. He is an active consultant at The Medical City as well as an esteemed researcher who has authored and co-authored over a hundred research papers published both locally and internationally.

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