

### **A Case of Unilateral Typhoid Cerebellitis**

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**Type of Publication:** Case Report

**Conflicts of Interest:** Nil

#### **Introduction**

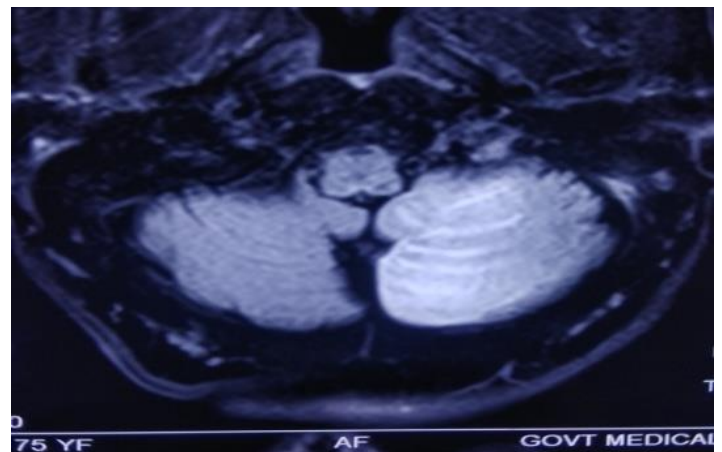
Acute cerebellitis (AC) is a rare inflammatory process involving the cerebellum. The majorities of cases has been described in children and were caused by a primary infection (e.g. West-Nile virus, *Mycoplasma pneumoniae*) or a postinfectious disorder<sup>1</sup>. Acute cerebellitis in children mainly presents with headache and ataxia<sup>2</sup> and may either have a benign, self-limiting course, or present as a fulminant disease requiring neurosurgery and steroid treatment and resulting in severe cerebellar damage. While acute cerebellitis in children has been studied extensively, less is known about acute cerebellitis in adults, due to the small number of cases reported<sup>3</sup>. Usually AC is a benign and self-limiting disease<sup>4</sup>; however, when fulminant it may end in sudden death or give rise to severe cerebellar atrophy<sup>5, 6</sup>. Acute cerebellar ataxia as an isolated neurological complication of enteric fever is very rare and limited to only a few case reports<sup>7, 8</sup>. Most of the neurologic complications occur during the second week, but it may manifest within the first few days of illness<sup>9</sup>.

#### **Case Report**

A 75-year-old woman presented with headache, nausea, and photophobia since 2 days. She was a known hypertensive which was well controlled on amlodipine; family history was insignificant. Physical examination

showed a temperature of 39 °C. Neurological examination was suggestive of signs of cerebellar dysfunction on left side with first degree horizontal nystagmus, dysarthria and left sided dysdiadokokinesia and an abnormal finger nose test. MRI-scan revealed left sided cerebellitis. Lumbar puncture revealed an opening pressure of 28 cmH<sub>2</sub>O, a leukocyte count 80 per microlitre which was lymphocytic and a protein of 56mg/dl. CSF was negative for mycobacterium tuberculosis, gram staining and fungal staining. Investigation revealed a positive widal test and a blood culture positive for salmonella typhi. Treatment with ceftriaxone was initiated. Patient improved clinically within 1 week of treatment.

#### **Image**



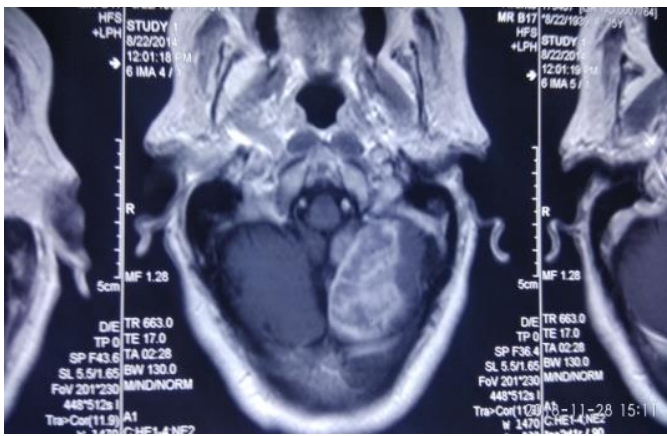


Fig: images of MRI brain hyperintensity in left cerebellum



Fig: image of the blood culture positive for salmonella typhi

## Discussion

Acute cerebellitis in adults is a rare entity with a wide range in etiology, clinical presentation and outcome. The pathophysiology is not fully understood. Cerebellitis is associated with several infectious illnesses, usually viral, and vaccinations<sup>10, 11, 12</sup>. However, in many cases, despite extensive serological tests, the causative agent of acute cerebellitis remains unknown. The mechanisms underlying the damage to the cerebellum in acute cerebellitis are not established. In some cases a direct role of the infective agent is supported by its demonstration in the CSF, blood, in other cases, an immunological alteration similar to that of acute disseminated encephalomyelitis is assumed<sup>13</sup>. complications of typhoid fever occurs mainly during 2<sup>nd</sup> week. The association of typhoid toxin and CNS manifestations is known and it may

affect part of CNS. Typhoid fever presenting as acute cerebellar ataxia in early course of illness is rare and few case reports have been reported. Recovery with appropriate treatment is often complete but may take as long as two weeks, however patient took about 5 weeks to recover [7]

Op kalra et al reported a case in a 19 year old female patient. complete recovery of cerebellitis is expected following successful treatment of underlying infection. An increased degree of suspicion and wide knowledge of atypical presentation in endemic areas is required. Gold standard for diagnosis of typhoid fever is isolation of organisms from blood or bone marrow. However at times positive widal may give a lead and is second most test widely used. The widespread and over the counter use of antibiotics often leads to negative results. [14]

## Conclusion

With emergence of mdr typhoid fever and atypical presentation of enteric fever, we suggest that enteric fever should be one of the differentials in a febrile patient who presents with cerebellar ataxia.

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