Acute Cerebellitis: Is It Always Benign?

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INTRODUCTION

- Acute cerebellitis (AC) is a rare inflammatory syndrome characterized by acute onset of cerebellar signs and symptoms.
- It is often accompanied by magnetic resonance imaging (MRI) abnormalities of the cerebellum. It may occur due to some viral infection or as a postinfectious or postvaccination disorder. The clinical course varies greatly, ranging from a relatively benign, self-limited course to an extremely severe presentation. Here, we present two cases with the different clinical course of acute cerebellitis due to influenza A virus. In the light of our cases, we tried to point out the treatment approaches of acute cerebellitis.

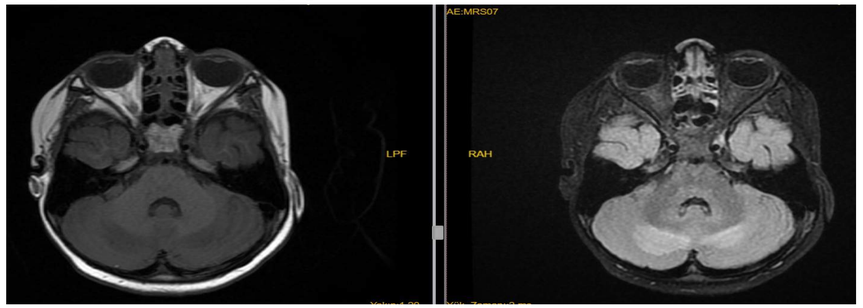
CASE 1

- An 11-year-old female patient was admitted to the emergency department with the complaints of ataxia and seizures triggered by fever. Truncal ataxia, dysmetria, and dysdiadokinesia were detected in her neurological examination. Cranial MRI imaging was normal.
- Lumbar puncture could not be performed because of parental consent absent. Nasopharyngeal swap test was positive for influenza A H1N1. Oseltamivir was completed for 5 days in the treatment. Cerebellar findings were totaly improved on the 7th day of discharge.

CASE 2

- A previously healthy 3.5-year-old female patient presented to the emergency department with seizures. Her neurological examination revealed truncal ataxia, head titubation and increased deep tendon reflexes. Cerebellar hyperintensities in the T2W series and diffusion restriction compatible with acute cerebellitis was reported at cranial neuroimaging (Figure 1). Nasopharyngeal swap test was positive for influenza A H1N1. Despite intensive treatment (oseltamivir, cefotaxime, acyclovir, steroid and plasmapheresis), the clinical course was fulminant. Additionally, mutism, opsolonus and myoclonus were added to clinical picture. At one month later after discharge, there was a mild improvement in her trunk ataxia, head titubation, opsoclonus and myoclonus. Additionally, severe cerebellar atrophy was detected at follow-up cranial imaging.

Figure 1. Cranial neuroimaging of Case 1



CONCLUSIONS

- Acute cerebellitis may present as a self-limiting of acute postinfectious cerebellar ataxia, or, may show very rarely a fulminant course resulting permanent cerebellar damage and sudden death. Due to variable clinical course, its therapeutic approach needs to be individualised.
- The theurapeutic role of steroid and antiviral agents is controversial and poorly studied in children. A conservative approach with close monitoring may be sufficient especially in mild cases. In the cases with the clinical progression or neuroimaging findings suggestive of a fulminant course, steroid is the first-line treatment to reduce the acute complications and long-term sequelae. In the first case with normal neuroimaging, we only preferred antiviral treatment. Whereas steroid was added to treatment in the second case because of cerebral edema and clinical progression. Unfortunately, we started steroid treatment late due to the lack of consensus with the department of infectious disease. It might be one reason for the cerebral atrophy detected in control MRI.In conclusion, evaluation of the acute cerebellitis with both clinical and radiological findings is important to decide theraupetic approach.

REFERANCES

- 1.Emelifeonwu JA, Shetty J, Kaliaperumal C, et al. Acute cerebellitis in children: a variable clinical entity. J Child Neurol. 2018; 33:675-684.
- 2. Kamate M, Chetal V, Hattiholi V. Fulminant cerebellitis: a fatal, clinically isolated syndrome. Pediatr Neurol. 2009;41(3):220–2.