Case 6570

**Acute cerebellitis**

Published on 20.03.2008

**DOI:** 10.1594/EURORAD/CASE.6570  
**ISSN:** 1563-4086  
**Section:** Neuroradiology  
**Case Type:** Clinical Cases  
**Authors:** Alex Rovira, Cristina Auger  
**Patient:** 24 years, male

**Clinical History:**

2-week history of progressive headache associated with ataxic gait.

**Imaging Findings:**

A 24-year-old man, previously in good health, was referred to the emergency department with a 2-week history of progressive headache. He developed intermittent diplopia, dysarthria and ataxic gait. Funduscopy revealed bilateral papilledema. Serological tests were negative. CSF analysis showed an elevated protein content. Brain CT was performed in the emergency room, and 2 days later, brain MRI was carried out.

**Discussion:**

Acute cerebellitis is a rare inflammatory syndrome characterized by cerebellar dysfunction. Most common presenting symptoms include truncal ataxia, dysmetria and headache. It typically occurs as a primary infectious, post-infectious or post-vaccination disorder and mainly presents in childhood and young adulthood. It is usually a benign, self-limiting disease; however, it can end in sudden death or give rise to severe atrophy. Varicella, measles, mumps and rubella are the most common etiologic infectious agents described in children. In most cases, a definite etiology remains undetermined. Serology is usually negative and CSF analysis shows elevated protein content and leukocytes. Brain CT is particularly useful in the acute phase, to detect acute hydrocephalus, cerebellar edema and brainstem compression. MRI is more sensitive and demonstrates increased cerebellar signal intensity on T2-weighted images and swelling. Pial enhancement is observed in some cases. These MR abnormalities most likely reflect the inflammatory nature of this syndrome. Resolution of the clinical symptoms is accompanied by normalization of the cerebellar MRI abnormalities, although development of cerebellar atrophy has been described. In the majority of cases, the treatment for acute cerebellitis is symptomatic, even in cases where no infectious agent can be identified. In some cases involving severe hydrocephalus, ventriculostomy or posterior fossa decompression may be required.

**Differential Diagnosis List:** Acute cerebellitis

**Final Diagnosis:** Acute cerebellitis

**References:**


Figure 1

Description: Initial brain CT (upper row) shows slightly hyperdense cerebellar parenchyma. Follow-up CT (lower row) obtained six days later demonstrates cerebellar cortical swelling with a small fourth ventricle, and obliterated basal cisterns. Mild supratentorial hydrocephalus is also seen. Origin:
**Figure 2**

*a*

Description: Axial and coronal T2-weighted images show marked abnormal areas of increased signal intensity in both cerebellar hemispheres and vermes. **Origin:**

*b*

Description: Unenhanced (left) and contrast-enhanced (right) sagittal T1-weighted images show cerebellar cortical swelling with a small fourth ventricle and basal cisterns, and no pathological contrast uptake. **Origin:**
Figure 3

a

Description: Axial T2-weighted images show reversal of the abnormal signal intensity and swelling.
Origin:

b

Description: Sagittal T1-weighted image show reversal of the cerebellar swelling. Origin: