PEDIATRIC EBV-ASSOCIATED ENCEPHALITIS - A CASE REPORT

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INTRODUCTION

Epstein-Barr Virus (EBV) infections may present as mononucleosis alone or may be associated with central nervous system complications, like encephalitis, meningitis, cerebellitis, acute disseminated encephalomyelitis, transverse myelitis or radiculopathy.

CASE REPORT

2 years old
Previously healthy

Emergency department

Fever, cervical adenopathies and a probable seizure

Physical exam unremarkable with a normal neurological exam

17310/uL leucocytes, 44% neutrophils, C reactive protein (CRP) 40,7mg/L

Discharged with diagnosis of a simple febrile seizure due to a respiratory viral infection

On the day after, he returned to the Emergency Department:
Fever and 2 new episodes of tonic-clonic bilateral seizures

Blood: 16910/uL leucocytes, 30% atypical lymphocytes, ALT 52 U/L, CRP 37mg/L; Monospot test positive
Cerebrospinal fluid (CSF): clear, Cytology: 74 leukocytes; normal protein and glucose levels, Cultures: pending

Abdominal ultrasound: hepatosplenomegaly
Normal brain CT

Ceftriaxone and acyclovir were initiated empirically, based on the preliminary diagnosis of encephalitis

CASE REPORT - evolution

EEG: occasional frontal epileptiform activity

Cerebral magnetic resonance (MRI): small lesions in frontal white matter, edematous lesions in lenticular, caudate nucleus and thalamus (T2 FLAIR)

PCR HSV 1&2, enterovirus and cultures (CSF) negative

Positive serum DNA EBV 23000/cps
Serum EBV IgM+/IgG-

Encephalitis by EBV
Decision to maintain 14 days of acyclovir 60 mg/kg/day due to the initial clinical improvement

Reevaluation 4 weeks later: normal development and neurological exam
• Serum PCR EBV negative
• Serum IgM-/IgG +
Reevaluation 6 months later: normal EEG and cerebral MRI

CONCLUSION

The clinical findings adding to the inflammatory CSF, PCR detection of EBV DNA in the blood, and EBV serology consistent with acute infection, favored the diagnosis of an EBV encephalitis. However, EBV PCR in CSF was negative and brain MRI was nonspecific illustrating the challenges of this diagnosis.