

EBV-related acute acalculous cholecystitis in pediatric population

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Introduction

Epstein-Barr virus (EBV) infection is known as infectious mononucleosis with classical symptomatology: general lymphadenopathy, hepatosplenomegaly. Acute acalculous cholecystitis (AAC) is a rare complication of EBV infection, with only a few cases reported among pediatric population. [1, 2, 3]

Purpose

The aim of this study was to evaluate clinical factors such as age, gender, predisposing diseases, laboratory results and ultrasonographic findings that determine clinical outcome of acute acalculous inflammatory gallbladder(GB) diseases during EBV infection in children.

Material

Retrospectively we analyzed the documentation of 168 children (aged 1-18 years, mean 5.05 ± 2.33) with EBV infection hospitalized in Department of Infectious Diseases and Child Neurology in Poznań in 2012-2016. Clinical symptoms, physical examinations findings, and diagnostic test results such as serologic tests, blood morphology, activity of liver enzymes and abdominal ultrasonography were thoroughly reviewed retrospectively for all study participants. The analyzed 168 patients were categorized into two groups: the first one - the children who presented classical symptoms on infectious mononucleosis (without cholecystitis); the second one - children with gall bladder inflammation in the course of EBV infection.

EBV infection was confirmed on the presence of the viral capsid antigen IgM antibody.

All patients were treated with intravenous acyclovir in dosage 30mg/kg/day. The average therapy lasted from 7-10 days.

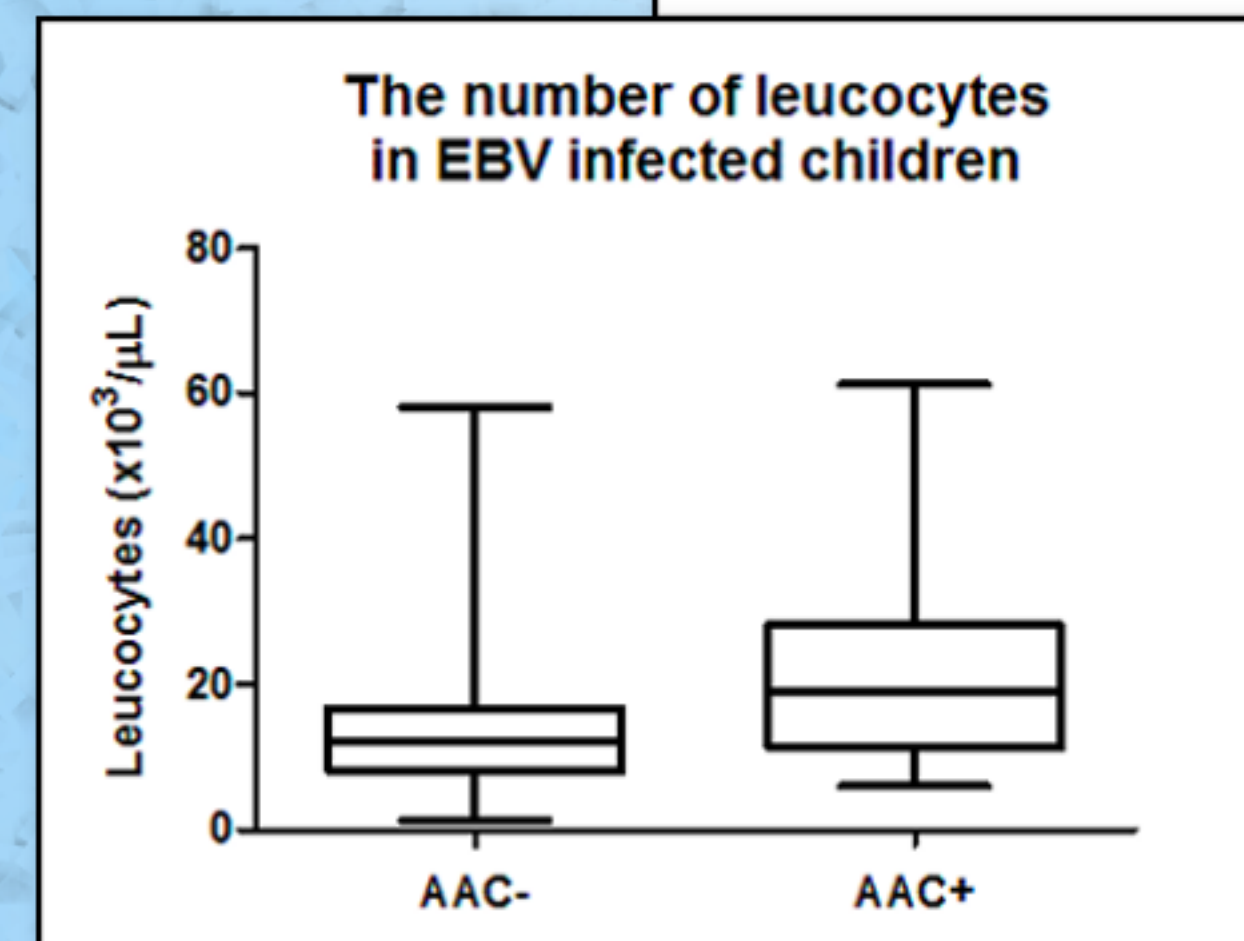
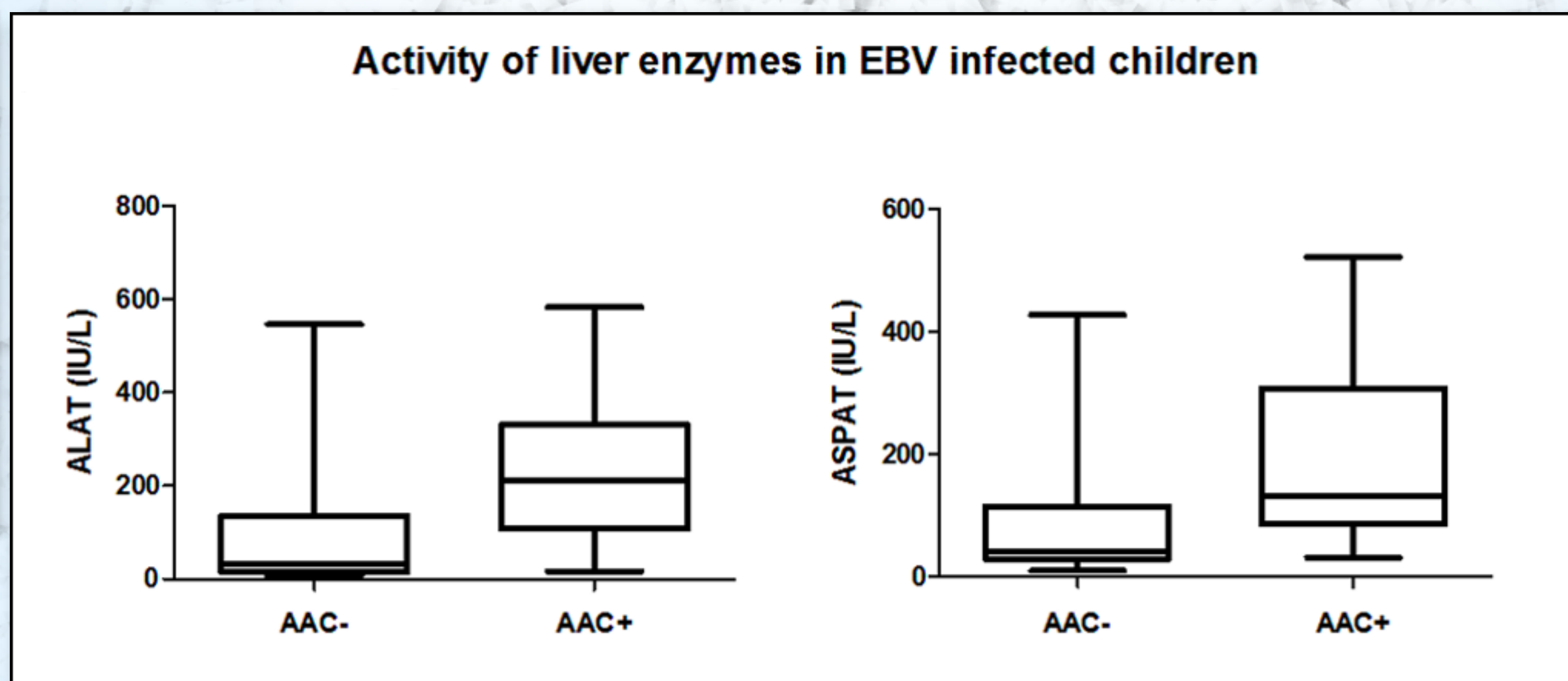
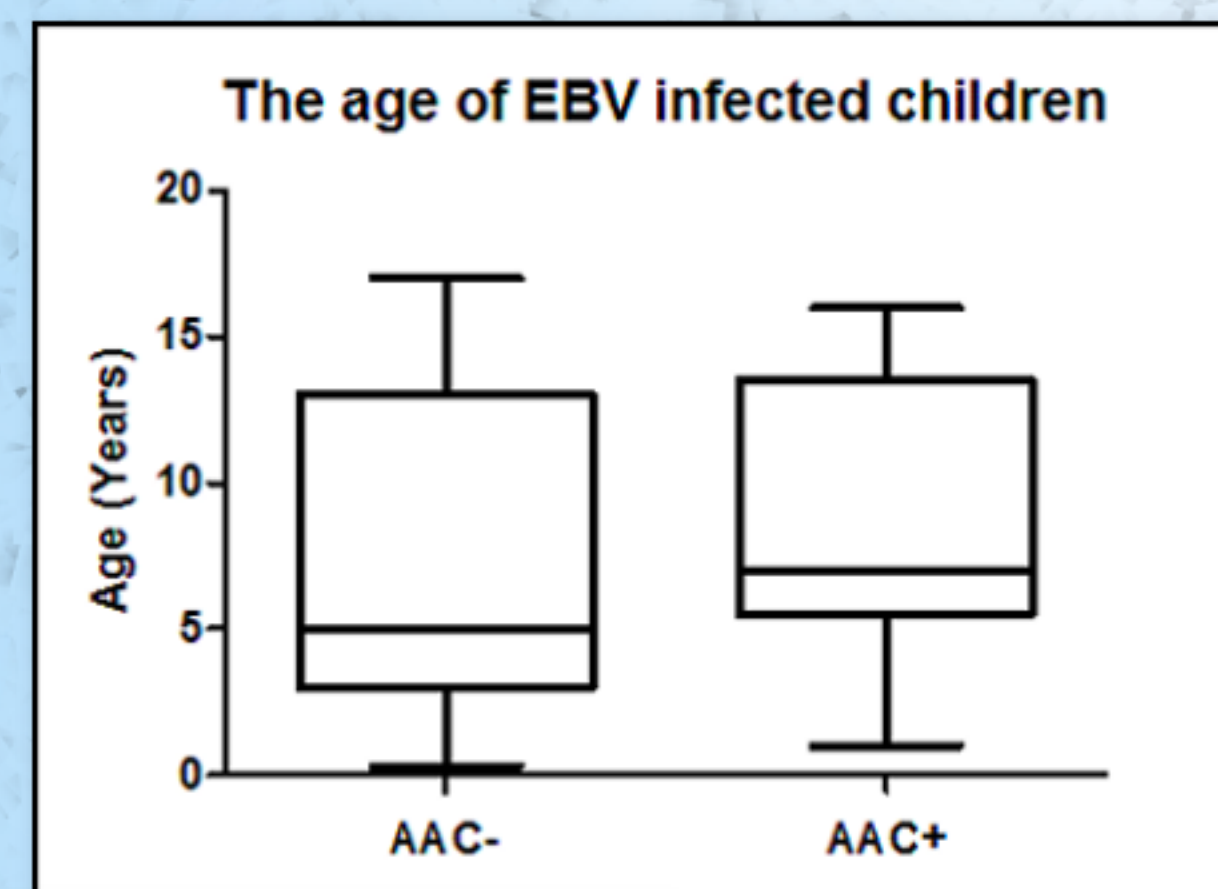
Results

In the analyzed group of EBV-infected children we found 13 children (7,75%) with AAC during infectious mononucleosis. There were 5 girls and 8 boys aged 1.5 to 18 years. Only one child was chronically ill before contracting EBV: he had cerebral palsy and epilepsy controlled using two anticonvulsant drugs. Twelve children were completely healthy before infection and they were not taking any medicaments. All patients had the gall bladder infection diagnosed at the admission time, before antiviral treatment.

The mean age of children presented infectious mononucleosis without cholecystitis was $7,66 \pm 5,44$ years, children with EBV cholecystitis - $8,69 \pm 4,69$ years ($p=0,35$). The gender distribution was also very similar in both groups (respectively: boys - 60,65% and 61,54%; girls - 39,35% and 38,46%).

The differences in the number of leucocytes and monocytes, activity of alanine and aspartate aminotransferase, gamma glutamyl transpeptidase concentration in both analyzed groups were not statistically significant.

The ultrasonographic criteria for the diagnosis of AAC: significant distention of gall bladder wall was found in 10 of 13 patients; GB wall thickness ($>2\text{mm}$) in 7 of 13 patients GB sludge, and pericholecystic fluid were identified in 3 and 1 patients, respectively.



Conclusion

1. The risk for AAC in children with EBV infection was estimated for 7,75%. The risk seems to be higher in pediatric patients than it had been previously reported.
2. AAC can be seen in all-ages children with infectious mononucleosis.
3. Classical lab tests, like the number of leucocytes and monocytes, activity of alanine and aspartate aminotransferase, gamma glutamyl transpeptidase concentration are not helpful in AAC diagnosis in children with EBV infection.
4. The gall bladder inflammation should be diagnosed basing on the abdominal ultrasonography, which should be the routine procedure in children with acute EBV infection.

References

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