

# A Rare Case of Epstein - Barr Virus Induced Acute Hepatitis Complicated with Acute Pancreatitis in an Adolescent

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**Abstract:** Background: Pancreatitis in children and adolescents can be induced by viruses. In acute hepatitis with acute pancreatitis Epstein-Barr virus could be the cause. Only 15 cases of pancreatitis caused by Epstein-Barr virus has been reported. Recurrence has not been seen. Case characteristics: An adolescent girl presented with infectious mononucleosis with hepatosplenomegaly and hepatitis. Subsequently, she developed acute pancreatitis. Observation/Intervention: She had elevated lipase levels. She was treated conservatively Outcome: Recovery was full. Recurrence occurred once within a month and recovered fully.

**Keywords:** EBV, PANCREATITIS, HEPATITIS, INFECTIOUS MONONUCLEOSIS

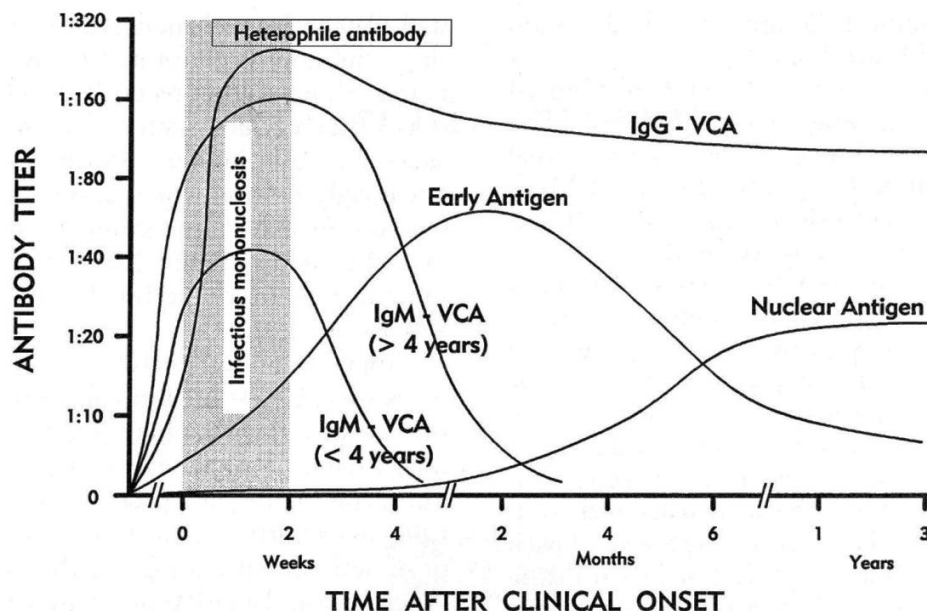
## 1. Introduction

Epstein-Bar virus (EBV) is a gamma herpes virus which infects all populations and produces Infectious mononucleosis throughout the world. Primary infection in developed countries occurs in adolescents and adults and in developing countries in infants and children. EBV is acquired by very close contact. Pharyngitis, malaise and cervical lymphadenopathy are the classical "triad" of this disease. Infectious mononucleosis also has dirty membrane which is usually present over the tonsils. Patients may have fever, which is low grade usually and may be continuing for weeks in rare instances. Child has soft hepatosplenomegaly. Primary acute pancreatitis (PAP) in adolescents due to EBV is a rare condition. Only 15 cases has been reported in literature. PAP in adolescents is caused by infective agents like bacteria, virus, hypoxia, hypovolemia. Cholestasis may be an additional presenting feature in some with mild jaundice. So far only 15 case reports of primary acute pancreatitis due to EBV are reported in world literature.

## 2. Case Report

Eleven year old girl presented to Chettinad hospital in Chennai, with fever ranging from 100 to 101<sup>0</sup> F for 6 days with head ache, body pain, nausea, upper abdominal pain and cough. She had mild icterus, moderate dehydration. Her

palate and tonsils were congested. There was a thin dirty yellow membrane over both tonsils, which could be removed easily. The child also had 5 to 6 bilateral cervical nodes 0.6 mm to 1.0 mm size on each side. There was mild epigastric tenderness. Liver was soft palpable 3 cm below costal margin (span 12 cm). Soft spleen was palpable 2 cm below left costal margin. No ascitis could be found. Other system examination was normal. A diagnosis of Infectious mononucleosis with moderate dehydration and gastritis with mild hepatitis was made. On the 3<sup>rd</sup> day of admission she had severe epigastric pain and tenderness. Diagnosis of acute pancreatitis was entertained and was confirmed by elevated serum lipase. She was managed conservatively. Severe pain and tenderness were there for 3 days, which gradually reduced over the next 4 days. Initial levels of serum amylase 393 units/mL and lipase 235 units/mL came down in 3 days to the level of 94 and 72 respectively. Peripheral smear showed many reactive lymphocytes. Total leucocytes count was 13300/cmm, polymorphs 16%, lymphocytes 74%, and monocytes 9%. Haemoglobin was 12.6gms%. Total serum bilirubin was 2.7, direct 0.75. AST 123, ALT 134, Alkaline phosphate 453, GGT 368, Albumin 3.1, Globulin 4.2, HAV IgM, HBS Ag, Hep C antibody were negative. Serology for Dengue, Scrub Typhus, Malaria were all negative.



(Source: Detrick B, Hamilton RG, Folds JD, eds. *Manual of Molecular and Clinical Laboratory Immunology*. 7th ed. Washington, DC: American Society for Microbiology; 2006pp; 637–647.-Retreived on 12<sup>th</sup> December 2017.)

Positive lab evidence for EBV in our patient is as follows: EBV capsid Antigen –IgM was 152 units/mL (normal <40) and IgG -109 units/mL(normal<20) (CLIA quantitative method) indicating acute primary Epstein-barr virus infection. Magnetic resonance cholangio-pancreatography was normal. One month later she presented with with acute pancreatitis & serum amylase and lipase were-457units/mL and 398units/mL respectively. There was no hepatosplenomegaly. She was managed conservatively. She became asymptomatic in 4 days, serum amylase and lipase returned to normal. . On follow-up after eight weeks child was normal.

### 3. Discussion

Infection-induced acute hepatitis complicated with acute pancreatitis is associated with hepatitis A virus, hepatitis B virus or hepatitis E virus. Although rare, EBV infection should be considered also in the differential diagnosis if the patient has acute hepatitis combined with pancreatitis[1]. Ka-Hyun Yoon and Jin-Bok Hwang reported acute pancreatitis in a 11-year-old girl without any clinical symptoms of infectious mononucleosis. It was confirmed by viral capsid antigen IgM and IgG.Our case also has similar presentation. Pankaj jain, et al reviewed 124 men with acute viral hepatitis, out of which 7 patients were found to have acute pancreatitis(5.65%). The cause of pancreatitis was hepatitis A virus in 2 patients, hepatitis E virus in 4 patients, and hepatitis B virus in 1 patient[2].The pancreatitis was mild and all had uneventful recovery from both pancreatitis and hepatitis. Concurrent acute hepatitis and acute pancreatitis in a 25 year old male was documented by Jered Cook, et al who came with 2-day history of abdominal pain, nausea and dark stools. EBV IgM antibody to the viral capsid antigen and Epstein-Barr nuclear antigen was positive[5]. Pancreatitis in a 35-year-old woman with a 6-day history of fever and sore throat., vomiting, upper abdominal pain and tenderness in epigastrium, and a macular rash across the upper trunk was reported by Zen Zhu, et al. Serum amylase level of 1300 U/L and lipase level

of 1450 U/L .16%“atypical” lymphocytes on the blood film and, positive viral capsid antigen immunoglobulin.

### 4. Conclusion

In a case of severe epigastric tenderness with hepatitis, one must also consider a possibility of EBV induced Acute Pancreatitis.Primary acute pancreatitis due to Epstein-Barr virus infection is usually mild, and recovers fully.Recurrent pancreatitis is also a possibility.

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