

Early Acute Liver Failure In Severe Acute Hepatitis B

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ABSTRACT

Early acute liver failure is defined by the presence of a drop below 50% of the normal prothrombine ratio, jaundice, and clotting factors of less than 50% in any patient with acute liver disease.

Clinical features and laboratory manifestations of viral hepatitis range from unapparent disease, asymptomatic infection, to culminant disease, which has the highest mortality rate of up to over 80 %.

We report a case of a 22-year old man who was treated in a private hospital with early acute liver failure caused by hepatitis B infection. The diagnosis was based on clinical symptoms and laboratory test results such as jaundice, hepatomegaly, ascites, 34% prothrombine ratio, elongated prothrombine time (37,1 seconds), hypoalbuminemia (1,9 g/dL), hyperbillirubinemia (total billirubin 26,35 mg/dL, direct billirubin 16,66 mg/dL, HbsAg (+), IgM anti- HBc (+), IgM anti HAV (-), and anti HCV (-).

The patient suffered from jaundice for 6 weeks and on the third week, he suffered from ascites. He had improved clinical condition and laboratory test results with conservative therapy after the seventh week. At the end of the tenth week, the patient's clinical condition and laboratory test results had reached normal, with HBsAg (-) and HBsAb (+). Whether or not interferon should have been given to this patient is still arguable.

Key words: *Early acute liver failure, Severe acute hepatitis B*

INTRODUCTION

Viral hepatitis is a systemic infection that causes the inflammation and necrosis of hepatocytes, causing an array of clinical, biochemical, immunoserological, and morphological changes.¹

It is estimated that 316 million people carry the virus in the world, 170 of which reside in the Asia-Pacific region. In Southeast Asia, including Indonesia, the prevalence is relatively high, ranging between 6 and 16%.²

Viral hepatitis shows a range of clinical signs and laboratory manifestations, from unapparent illness, asymptomatic infection, to culminant disease with a very high mortality rate (>80%).^{1,2}

A French hepatogastroenterologist stated that acute liver failure is characterized with clinical signs of encephalopathy, while early acute liver failure is defined as a reduction in prothrombine ratio to less than 50% the normal value in a patient with acute hepatitis. In the Netherlands, a patient is considered to have early acute

liver failure if there is jaundice and a clotting factor of less than 50%.³

Serological diagnosis of acute hepatitis B is established if HBsAg and IgM anti-HBc are found in the patient's serum.¹⁻⁴

There is no specific treatment for distinguishable acute viral hepatitis. Nevertheless, hospitalization is advisable for possible focused treatment and care as well as prevention of transmission to other members of the family and the community. The patient is given a low fat, high carbohydrate, and high protein diet. Immunotherapy may alleviate complaints and assist the normalization of liver function.⁵

CASE REPORT

T, a 22-year old, male college student living in Medan was hospitalized in a private hospital from May 8, 2002 with a chief complaint of yellow eyes since the previous

2 weeks, mild fever and fatigue for 3 weeks, and tea-colored urine for 3 weeks. He had never suffered from similar disease. The patient was fully conscious, with a blood pressure of 110/80 mmHg, a pulse rate of 98x/minute, a respiratory rate of 24x/minute, and a body surface temperature of 38°C.

Physical Evaluation

There was no anemia. The patient's sclera and body were all yellow. There was hepatosplenomegaly, ascites, and tenderness in the upper right abdomen.

Results from ultrasound examination: ascites and hepatosplenomegaly

Working diagnosis: severe acute Hepatitis B with acute liver failure

Treatment

Bed rest, liver diet type IV, 1 flask of BCAA/day, Dextrose 10% 20 gtt/I, Albumin infusion 1 flasks/day, omeprazole injection 1 vile/day, Hepato protector 3 x 1/ Immuno-regulator 1 x 1. The patient was hospitalized for 2 weeks, his complaints alleviated, and there was no more ascites. The patient was then allowed to receive out-patient care, and within 10 weeks the patient's HBs Ag was (-) dan anti HBs (+).

DISCUSSION

Hepatitis is a diffuse inflammatory process of liver tissue that manifests as specific clinical symptoms of fatigue, dark tea-colored urine, and yellowing of the sclera of the eyes and the skin of the body.¹⁻⁵ We found all of these clinical symptoms in this case.

During physical examination, physical changes are only seen during the jaundice phase, where jaundice is easily found in the sclera, the liver is enlarged and feels soft to the touch, with sharp edges and tenderness.¹⁻⁵ In this case, we found jaundice of the sclera and entire body, hepatomegaly, and upper right abdominal tenderness.

The findings in this case, such as ascites, give an impression of a bad prognosis. In addition, the at the time elongated prothrombine time, low serum albumin level, and high billirubin level, indicated severe cellular hepatitis.^{4,5} Since such conditions were found in this case, the case is considered to be a case of severe acute hepatitis B.

The most dreaded complication of viral hepatitis is fulminant hepatitis (massive liver necrosis). Patients usually demonstrated symptoms and signs of encephalopathy, which can develop into deep coma. The patient's liver is usually small, and the patient's prothrombine time is usually greatly elongated.¹⁻⁵

A combination of rapid liver shrinkage, increased billirubin level, and greatly elongated prothrombine time, in addition with signs of convulsion, disorientation, somnolence, ascites, and edema, demonstrate that the patient suffered from acute liver failure.³

In advanced stages, liver failure culminates, causing a very high mortality rate (>80%), but patients that survive undergo a complete biochemical and histological improvement.^{4,6,7}

A French hepatogastroenterologist stated that acute liver failure is characterized by the clinical symptom of encephalopathy, while early acute liver failure is defined as a reduced prothrombine ratio of less than 50% from normal values in patients with acute hepatitis. In the Netherlands, early acute liver failure is defined in the presence of jaundice and a reduced clotting factor of less than 50%.^{3,6,7} We could not consider this case as culminant hepatitis, but there are signs of early acute liver failure.

Acute hepatitis B is only symptomatically treated in the form of a low fat, high carbohydrate, and high protein diet. Medications for immunotherapy and liver protection may be administered. In this case, in addition to bed rest, immunotherapy and plasbumin were also administered. During treatment, the patient underwent clinical improvements, finally reaching HbsAg (-) dan anti HBs (+).

CONCLUSION

We reported a case of severe acute hepatitis B that demonstrates signs of early acute liver failure. Focused treatment was able to produce improvements.

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