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Case Report

Immune Thrombocytopenia Associated with Hepatitis A Infection in Children

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Abstract
Hepatitis A infection is usually a self–limited disease during childhood. Autoimmune manifestations are rarely reported among patients with HA infection. We describe a previously healthy 6-yr-old male with acute hepatitis A who developed immune thrombocytopenia.
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Keywords · Hepatitis A · Immune thrombocytopenia

Introduction

Acute hepatitis A is a common viral infection found throughout the world and is spread principally via the oral-fecal route. Hepatitis A is usually self-limited and full recovery is seen by 3 months in 85% of cases.[1,2]

The clinical spectrum of acute hepatitis A is variable and includes silent infection detected only by serologic tests, a subclinical infection revealed by abnormal liver tests, clinically-apparent hepatitis, and rarely, fulminant hepatitis which is associated with coma and occasionally death. Atypical manifestations such as relapse, cholestasis, rash, arthralgia and pericardial and pleural effusions have also been described with hepatitis A, but the pathophysiology of these phenomena has not been elucidated.[1]

Autoimmune manifestations such as idiopathic thrombocytopenic purpura (ITP), aplastic anemia, and hemophagocytic syndrome have rarely been reported during the course of acute phase of the disease. However, transient hematologic complications may be seen during the course of acute hepatits.[3,4]

A 6-yr-old male admitted to the hospital because of epistaxis, mouth bleeding and presence of several bruises and purpuric lesions over his body. About 10 days before admission he developed malaise, nausea, and vomiting which was followed by jaundice in two days. His physical examination revealed several ecchymosis and purpuric lesions on the trunk and extremities and bleeding from nose and gums. He had light jaundice with no liver and spleen enlargement. Laboratory tests revealed elevated liver enzymes including aspartate aminotrasferase (AST, 109 Units/l), alanine aminotransferace (ALT, 171 Units/l) and alkaline phosphatase (ALP, 1700 Units/l). Total serum bilirubin concentration was 1.6 mg/dl with 1.3 mg/dl conjugated bilirubin. Seven day before admission the initial AST and ALT were about 1390 and 1425 Units/l respectively. Other findings included a normal prothrombin time and partial thromboplastin time, hemoglobin level of 13.1 g/dl, white cell count of 7400/mm^3 (neutraphil 40%, lymphocytes 48%, atypical lymphocyte 5%) and sever thrombocytopenia (<1000/mm^3). The serologic investigation for hepatitis B, hepatitis C and Epstein-Barr viruses were all negative except for the

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were presence of anti-hepatitis A IgM. The immunologic studies were negative for anti-nuclear, anti-DNA and anti-smooth muscle antibodies.

Ultrasonography showed a liver with upper limit of normal size and no vascular abnormality. A bone marrow aspiration revealed normocellular marrow with increased megakaryocytes. He had been given 1g/kg immunoglobulin intravenously for 3 days. The platelet count rose to 130000/mm^3 whereas, serum anti-hepatitis A IgM was still positive at the end of the third week of follow up. The thrombocyte count returned to normal (262000/mm^3) five months after the onset of disease.

Discussion

Autoimmune complications are rare during the course of acute hepatitis A. Although many viral infections such as hepatitis B, parvo and Epestein-Barr viruses are associated with extrahepatic autoimmune phenomenon, few cases, mostly in adults, present with immune-mediated thrombocytopenic purpura.[4] Yende *et* described an adolescent who developed thrombocytopenia during the course of acute hepatitis A.[5] The authors suggested a possible causal relationship between hepatitis A and immune-mediated thrombocytopenia.[4] Ertem also demonstrated an increase in the titer of IgM antiphospholipid (APL) antibodies in a 5-yr-old girl with hepatitis A associated immune thrombocytopenic purpura. Because *et* APL antibodies are associated with acquired hypercoagulability and thrombocytopenia, they suggested that the increased APL antibodies developing during the course of acute hepatitis A infection might be associated with complication in their patients.[4]

Anti-phospholipid antibodies are a recently described class of protein that has been linked to coagulation disorders in human. Several risk factors including the administration of exogenous estrogen and certain drugs such as procainamide, quinidine, phenytoin, valporic acid as well as infections caused predominantly by viruses such as human immune deficiency virus, Epstein Barr virus, parvovirus, hepatitis A, B and C, rubella and mumps viruses account for the development of APL antibodies. However, APL may be seen in spirochetal infection and chronic conditions, such as tuberculosis or leprosy.[4,6] In our patient we could not assay the titer of APL IgM.

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