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Pleural Effusion a Rare Extra-Hepatic Manifestation of Hepatitis A

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Abstract: Hepatitis A is the most common cause of viral hepatitis in childhood. Clinical spectrum of the hepatitis A ranges from mostly asymptomatic to fulminant hepatic failure. Pleural effusion, ascites and anasarca are very rare extra-hepatic complications of hepatitis A. The etiology is not clearly understood, but they tend to undergo spontaneous resolution and do not warrant specific diagnostic or therapeutic measures. We present a case of pleural effusion as an atypical presentation of hepatitis A.
Keywords: hepatitis a, pleural effusion, icterus, hepatomegaly.

INTRODUCTION

Hepatitis A virus (HAV) is an RNA virus, a member of the picornavirus family [1]. HAV infection is a widespread illness and one of the most common forms of hepatitis in children in developing countries, owing exclusively to poor hygiene and sanitation leading to significant morbidity and occasional mortality [2-4]. In children, it manifests usually with mild symptoms or asymptomatic and jaundice is usually absent. The clinical manifestations are usually localized to problems related to liver dysfunction, but occasionally are associated with atypical presentations including anasarca, isolated pleural effusion, and ascites. Pleural effusion occurs during early period of the disease and resolves spontaneously with resolution of hepatitis [3, 4]. In this article, a child who had an unusual presentation of hepatitis A with pleural effusion was reported.

CASE REPORT

5yr old female child born of second degree consanguineous marriage second in birth order brought by her mother with chief complaints of low grade fever from past 5 days, yellowish discoloration of eyes since 4 days and shortness of breath since 2 days, no history of similar complaints in the past, or in the family . On examination Child was conscious, and coherent. Child was febrile, icterus was present and liver was palpable 6cm below the costal line with liver span of 10 cm. On systemic examination of respiratory system trachea appears central, movements appear to be symmetrical on both sides, no deformities of chest wall, Vocalfremitus were absent in right inframammary, and infra-axillary areas. On percussion stony dull was noted in right inframammary and infra-axillary region. On auscultation there was decreased air entry on right side of the chest.

Labarotary studies revealed wbc count 6000 with lymphocytic predominance, elevated ESR, normal renal function, and serrum electrolytes. Liver function test reveled normal serum proteins, elevated serum alkaline phosphatse with value of 773 u/l, alanine aminotransferase levels of 421 u/l and elevated total bilirubin levels of 5.1 mg/dl with direct bilirubin of 2 mg/dl and indect bilirubin 3.1 mg/dl. Dengue serology, smear for malaria, widal, Hbsag, mantoux test and blood cultures were negative. Anti HAV IgM antibodies were positive**.** Chest x ray showed bilateral pleural effusion more on the right side [Fig 1] and ultrasound abdomen and chest correlates with chest x ray findings and also showed mild hepatomegaly with increased echogenecity mild splenomegaly . Thoracocentesis was done pleural fluid reveled exudative effusion. Diagnosis of Hepatitis A with rare extra hepatic manifestation of pleural effusion was made and Child was given supportive management. Pleural effusion resolved with normalization of liver function test within 10 days of admission.

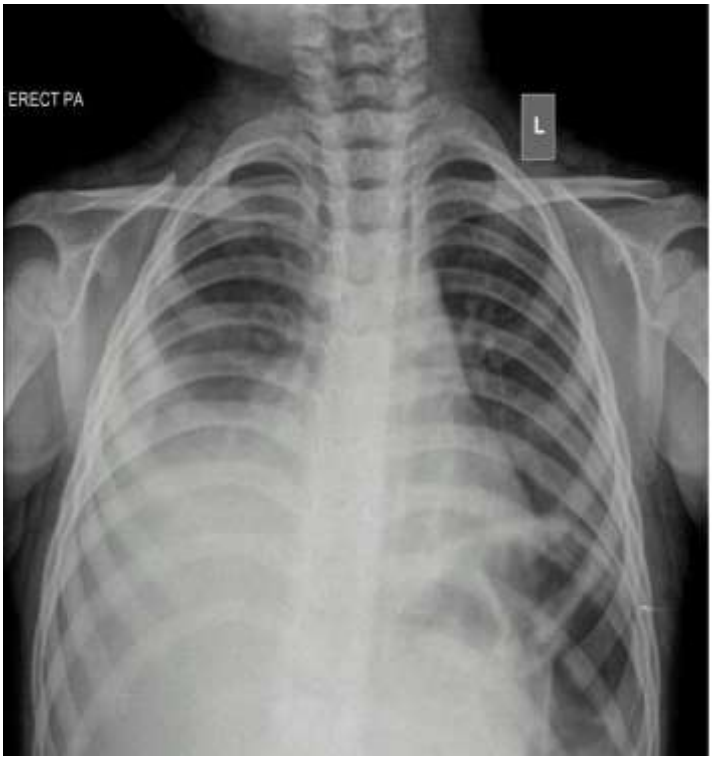

Fig-1: Chest x ray showing pleural effusion more on the right side of chest

DISCUSSION

Hepatitis A is a very common infection in developing countries. It is frequent in childhood and is mostly asymptomatic in early childhood. However, its clinical presentation may occur over a large spectrum from non-icteric to a fulminating hepatic failure form. The duration of his incubation period was 2-6 weeks and thereafter clinical symptoms such as weakness, appetite and nausea appears. At first, clinical, then biochemical and histopathological recovery became apparent [5]. Acute hepatitis A virus infection is usually a self-limited disease [6] in which 85% of patients recover completely in three months, mortality risk increases with age [3] and conferring lifelong immunity.

Extra hepatic manifestations are reported in 6.4–8% of children infected with hepatitis A virus manifestations include acalculous cholecystitis, cryoglobulinemia, cutaneous vasculitis, arthralgia, apalastic anaemia, Guillane---Barre syndrome, transverse myelitis haemophagocytic syndrome, pancreatitis, acute tubular necrosis, nephrotic syndrome, pleural effusion, reactive arthritis and Gianotti crosti syndrome [2, 7, 8].

One of the rare extra hepatic complications of hepatitis A is pleural effusion [5]. The precise mechanism of pleural effusion in hepatitis A infection is unknown and may be multifactorial. One of the postulated mechanisms is the transport of fluid from diaphragmatic lymphatics or leakage from a diaphragmatic defect to the pleural cavity from coexistent ascites [3, 6]. Another potential mechanism is a virus-induced inflammation of the liver, which through unknown mechanisms leads to effusion. Pleural effusion may also develop as a result of immune complex deposition or direct effect of viral invasion on pleura. The pleural effusion due to HAV infection does not require any treatment and is thought to be a benign early complication. HAV-associated pleural effusion resolves spontaneously even though liver pathology deteriorates [4].

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