

A rare case of childhood Hepatitis A infection with pleural effusion, acalculous cholecystitis, and ascites

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ABSTRACT

Hepatitis A is common among children of developing nations. Young children with Hepatitis A infection usually have a mild form of the disease. Serious manifestations like pleural effusion and acalculous cholecystitis are very rare in Hepatitis A infection in young children. There have been some reports of these manifestations of childhood Hepatitis A occurring in isolation but for these to co-exist, is extremely rare. In this article a young child with Hepatitis A infection who had all these three manifestations of pleural effusion, acalculous cholecystitis and ascites together, is reported.

Keywords: Acalculous cholecystitis, ascites, child, Hepatitis A, pleural effusion

Introduction

Hepatitis A is a common infection in children of developing nations. Younger children usually have a mild form of the disease, whereas older children may present with more serious and rarer manifestations.^[1] The seroprevalence of hepatitis A is reported in India is as high as 33%^[2-4] and is responsible for sporadic outbreaks. Despite its high prevalence in endemic countries, it remains an underdiagnosed disease and often missed by primary care physicians practicing in rural areas and periurban areas. The out-of-pocket expenditure for treatment of a family member accounts for 25,000 INR.^[5] Vaccination against hepatitis A is recommended by Indian Academy of Paediatrics but is not available under national immunization schedule. The patients often presents with nausea, vomiting, and fever with or without an icterus with a case fatality rate varying from 0.3% among children to 1.8% in elderly.^[6] Pleural effusion and acalculous cholecystitis are very uncommon manifestations of childhood hepatitis A infection.^[7] There

have been a few case reports of isolated pleural effusion,^[8-17] and pleural effusion and ascites^[15] or anasarca^[16] in cases of childhood hepatitis A infection. However, we could find only one case report to the best of our knowledge, of all these three manifestations occurring in a single child.^[7]

Here, we present a 3-year-old girl with hepatitis A infection who had all these three manifestations of pleural effusion, acalculous cholecystitis, and ascites together.

Case Report

A 3-year-old girl presented to the out-patient department of a Sub-District Hospital Ballabgarh, Faridabad district, Haryana, with a history of 10 days of on and off fever, and abdominal pain and abdominal distension of 7 days. On examination, child was hemodynamically stable and had icterus and hepatomegaly with liver span of 12 cm.

Initial investigations revealed hemoglobin of 11.6 g/dL, total leukocyte count of 12,400/mm³, platelet count of 216,000/mm³,

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and the peripheral smear showed no atypical cells. She also had conjugated hyperbilirubinemia with total bilirubin of 3.5 mg/dL with conjugated fraction of 1.5 mg/dL, transaminitis with aspartate aminotransferase of 680 U/L, alanine aminotransferase of 745 U/L, and alkaline phosphatase of 2,632 U/L.

Ultrasound examination revealed right-sided mild pleural effusion, gall bladder wall thickening of 4 mm suggestive of acalculous cholecystitis, moderate free fluid in abdomen, and hepatomegaly [Figure 1]. Etiological work up revealed a positive immunoglobulin M anti-hepatitis A serology. Serologies for hepatitis B, hepatitis C, and enteric fever were negative.

In view of possibility of concomitant bacterial infection child was given a course of 7 days of oral antibiotics. She had no encephalopathy but had an international normalized ratio of 2 without any bleeding manifestations. This was managed with intravenous vitamin K injections and it improved gradually by the fourth week of illness. Child remained hemodynamically stable throughout the duration of illness. She was managed conservatively and no invasive interventions were done. By third week of illness on repeat ultrasound, the mild pleural effusion, ascites, and the acalculous cholecystitis had resolved and the biochemical parameters gradually improved by fourth week of illness [Table 1].

Discussion

Acute hepatitis A infection in young children is usually mild and having extrahepatic complications as in our case is rare. There

are various theories regarding pathogenesis of pleural effusion, ascites, and acalculous cholecystitis in acute hepatitis A infection, but the precise mechanism is unknown.

Probable mechanisms for pleural effusion are transport of fluid from diaphragmatic lymphatics, leakage from a diaphragmatic defect,^[12,13,18] or immune complex deposition.^[7,12,15] For acalculous cholecystitis mechanisms suggested include hypoalbuminemia, extension of hepatic inflammation, or direct viral invasion.^[19] For ascites, similarly, the possible mechanisms are obstruction of veins or lymphatics and hypoalbuminemia.^[7,12,15]

All these three complications are usually transient and self-resolving and do not require any surgical intervention. Our case draws attention towards how hepatitis A infection could be complicated with extrahepatic manifestations and presents a success story of its conservative management at a secondary care setting.

Conclusions

A rare case of childhood hepatitis A was identified, complicated by extrahepatic manifestations and was managed conservatively. This case study has important implications in primary care practice and physicians at this level need to be aware about extrahepatic manifestations childhood hepatitis A, so that unnecessary interventions like pleural tap,^[14] ascitic tap, and unnecessary referrals to tertiary care centers might be avoided. Also, a differential diagnosis of hepatitis A must be kept in mind while managing such cases with similar manifestations. Such a case can be managed only conservatively with serial clinical examinations, biochemical, and radiological studies.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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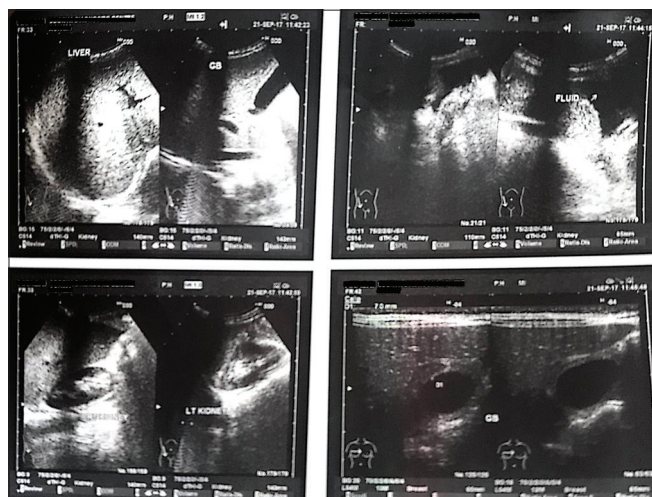


Figure 1: Ultrasound images

Table 1: Biochemical parameters of the patient

Week of illness	1	2	4
Aspartate aminotransferase (U/L)	680	160	53
Alanine aminotransferase (U/L)	745	189	39
Alkaline phosphatase (U/L)	2632	723	245
Total serum bilirubin (mg/dL)	3.5	0.95	0.42
Direct bilirubin (mg/dL)	1.5	0.4	0.19

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