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Extrahepatic manifestations of hepatitis A

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Abstract

Objective: To study the effect of ambient noise levels on the hemodynamics of neonates.

Materials and methods: The present study is a hospital based prospective study. The study aimed at assessing the ambient noise levels in the NICU with a decibel meter and its effect on heart rate, respiratory rate, oxygen saturation and sleep pattern among neonates. A total of 110 neonates were enrolled in the study, 61 were males and 49 females and 98 term and 12 preterm.

Results: The mean noise levels in the NICU were 56.2 dB. The lowest noise levels were recorded at 8am i.e. 47dB in the low dependency unit while the highest recorded level was at 2pm i.e. 64dB in the high dependency unit. The hemodynamics at the time of minimum noise levels (47dB) were HR 120/min, RR 30/min, sPO2 100% and the neonate was asleep. The corresponding findings at the time of maximum noise levels (64dB) were HR 158/min, RR 52/min, SpO2 90% and the neonate was awake and irritable.

Conclusions: The ambient noise level in our NICU was well within the recommended levels by AAP and it was reflected on the hemodynamic status and sleep pattern of the neonates.

Also for every 5dB rise in noise levels there was an increase in HR by 8-10%.

Keywords: Extra hepatic, manifestations, hepatitis A

Introduction

Hepatitis A is generally an acute, self limiting infection of the liver by an enterically transmitted picorna virus, hepatitis A virus (HAV). The symptoms produced are anorexia, nausea, vomiting, weakness, fatigue, abdominal pain, mild fever, jaundice, dark urine, altered sleep pattern and clay colored stools. The signs include yellow discoloration of sclera, enlarged tender liver and sometimes splenomegaly. There has been a changing pattern observed in the presentation of the disease in recent times. Extrahepatic manifestations of acute hepatitis A virus are rare in pediatric age group

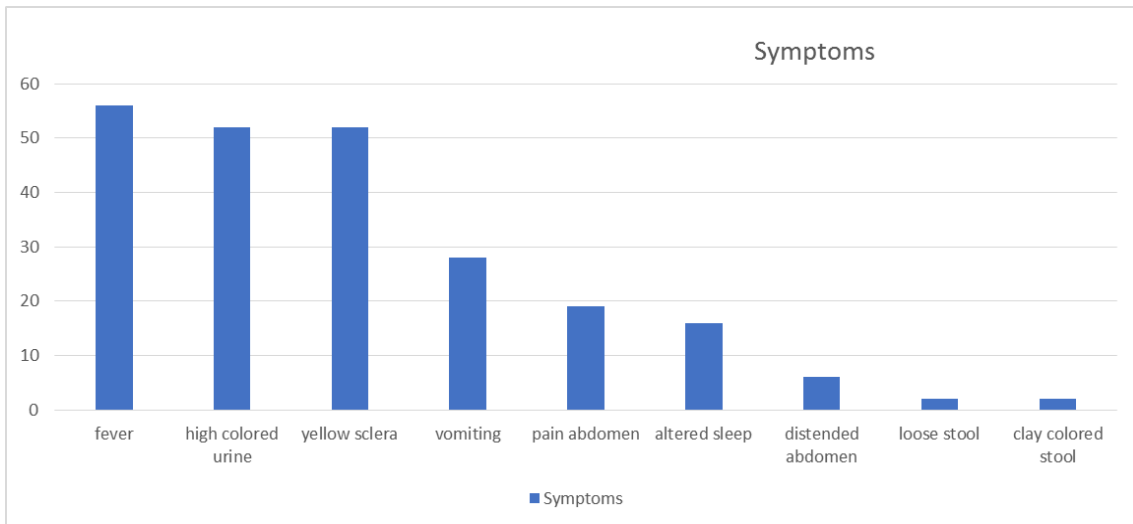
Aims and objectives

- To study the clinical features of hepatitis A in children.
- To assess the laboratory derangements in hepatitis A.
- To study the extrahepatic manifestations of hepatitis A.

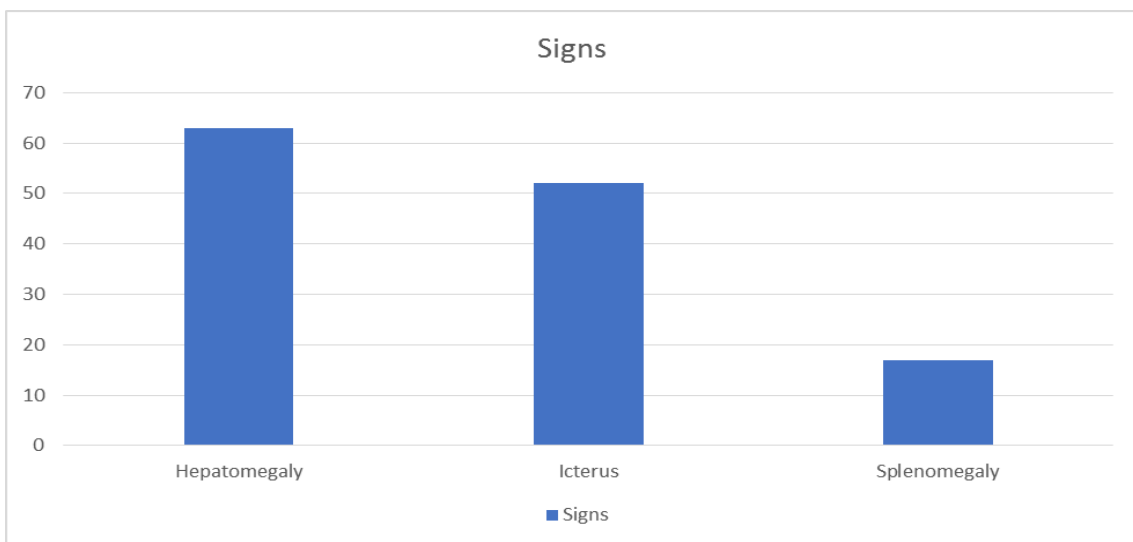
Materials and Methods

- All patients of clinically suspected hepatitis A enrolled. 67 cases who were seropositive for hepatitis A were subject to further work-up.
- The patients were clinically assessed as per the proforma. After hospitalisation the requisite blood investigations were sent.
- All patients suffering from other forms of hepatitis like hepatitis B, Wilson's disease, etc, were excluded from the study.

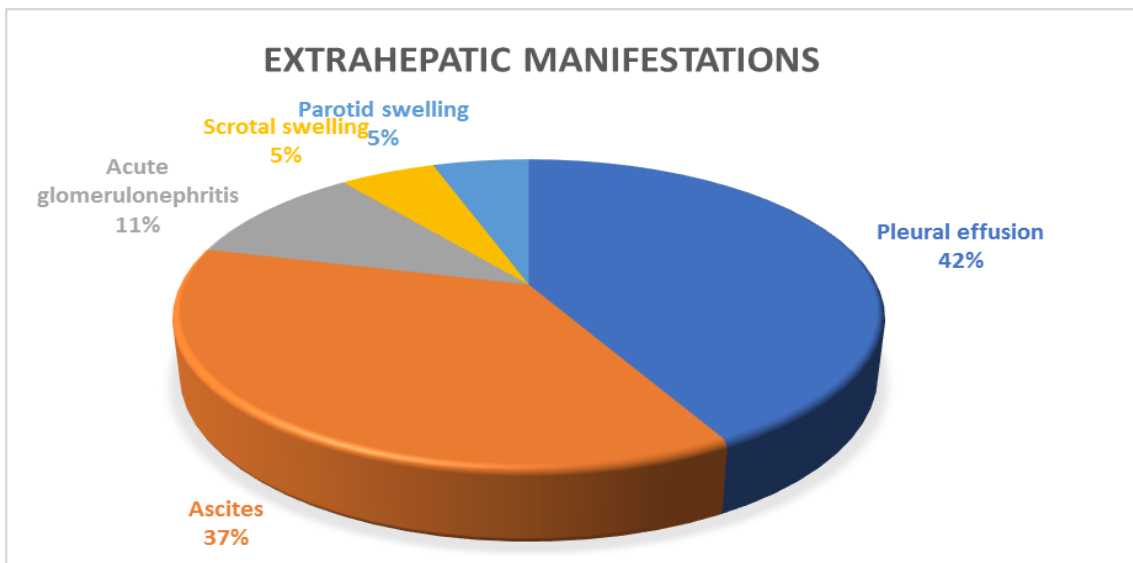
Results



Out of the 67 cases enrolled, 83.6% had fever, 77.6% had high colored urine and 77.6% had yellow sclera which are the most common presenting features of hepatitis A.



94% cases had hepatomegaly, 77.6% had icterus and 25.4% had splenomegaly out of the 67 cases enrolled.



In our study 42% of the cases had pleural effusion, 37% had ascites, 11% had AGN and 5% each had scrotal edema and parotid swelling.

Discussion

The clinical spectrum of hepatitis A virus infection ranges from asymptomatic infection to fulminant hepatitis. Clinical manifestations depend on the age of the host: less than 30% of infected young children are symptomatic, while about 80% of infected adults manifest severe hepatitis with remarkably elevated serum aminotransferases. Fulminant hepatitis is rare. Atypical manifestations include relapsing hepatitis and prolonged cholestasis, and complicated cases with acute kidney injury have been reported. Extrahepatic manifestations, such as autoimmune hemolytic anemia, aplastic anemia, pure red cell aplasia, pleural or pericardial effusion, acute reactive arthritis, acute pancreatitis, acalculous cholecystitis, mononeuritis, and Guillain-Barré syndrome, have been rarely reported.

In our study, fever, high colored urine and yellowish discoloration of sclera were the triad of most frequent symptoms. The most frequent signs were fever, icterus, hepatomegaly and splenomegaly.

Clinical Manifestations of Hepatitis A

Typical Clinical Manifestations

Following a 2–7-week incubation period, typical symptoms develop, including fever, malaise, nausea, vomiting, abdominal discomfort, dark urine, and jaundice. Less common symptoms include myalgia, pruritus, diarrhea, arthralgia, and skin rash. There is no evidence of chronic liver disease or persistent infection after acute hepatitis A. However, some patients show prolonged disease or relapsing disease lasting up to 6 months, with prolonged excretion of HAV. Clinical illness and laboratory abnormalities recover within 2 months from onset of illness.

Atypical Clinical Manifestations

Atypical manifestations following hepatitis A include relapsing hepatitis, prolonged cholestasis, and complicated cases with acute kidney injury as well as a rare autoimmune hepatitis. Prolonged cholestatic hepatitis A was characterized by pruritus, fatigue, loose stools and weight loss accompanying prolonged cholestasis. Acute kidney injury complicating non-fulminant hepatitis A was seen in 11%. Proposed mechanisms of renal damage include pre-renal factors associated with anorexia, nausea, vomiting, diarrhea and fever as well as nephrotoxic effects of hyperbilirubinemia, immune complex-mediated nephritis, interstitial nephritis and (rarely) massive intravascular hemolysis.

Other Extrahepatic Manifestations

There have been rare cases of extrahepatic manifestation of hepatitis A that included autoimmune hemolytic anemia, aplastic anemia, pure red cell aplasia, pleural or pericardial effusion, acute reactive arthritis, acute pancreatitis and neurologic complications, such as mononeuritis multiplex and Guillain-Barré syndrome. Acalculous cholecystitis may often be complicated.

Conclusion

HAV remains an important cause of hepatitis outbreak. According to changes in HAV epidemiology, the disease burden of hepatitis A has increased in many regions because hepatitis A shows more severe clinical manifestations in children. Atypical features of hepatitis A include pleural effusion, ascites, acute glomerulonephritis, scrotal swelling,

parotid swelling recurrent hepatitis, prolonged cholestasis, acute kidney injury, hemolytic anemia and other extrahepatic manifestations. Management of hepatitis A includes general supportive care. Fundamental management of hepatitis A includes active vaccination, and the vaccination program should be suited to the regional situation.

These manifestations need to be looked out for early intervention and treatment.

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