Section: General Medicine

Case Report

ACUTE VIRAL HEPATITIS DUE TO CO-INFECTION WITH HEPATITIS A AND HEPATITIS E VIRUSES: A CASE REPORT

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ABSTRACT

Background: Hepatitis A virus (HAV) and hepatitis E virus (HEV) are important causes of acute viral hepatitis in developing countries, primarily transmitted via the fecal-oral route. Co-infection, though uncommon, may result in more severe illness and an increased risk of acute liver failure.
Case presentation: We report a case of a 21-year-old male presenting with fever, jaundice, vomiting and malaise. Laboratory evaluation revealed markedly elevated aminotransferases and hyperbilirubinemia. Serology was positive for anti-HAV IgM and anti-HEV IgM. Supportive management led to complete recovery.
Conclusion: HAV–HEV co-infection should be suspected in endemic regions, especially in patients with acute hepatitis and risk factors for fecal–oral exposure. Early diagnosis and supportive management can prevent complications.
Keywords: hepatitis A vitus, hepatitis E virus, Acute viral hepatitis, jaundice.

INTRODUCTION

Hepatitis A and E are enterically transmitted viruses prevalent in developing regions with inadequate sanitation. HAV is ubiquitous and primarily affects children, while HEV more often affects young adults and pregnant women. Co-infection with both viruses is rarely documented but may result in more severe disease, especially in adults and high-risk groups. Here, we present a case of acute hepatitis due to HAV–HEV co-infection in a young adult male.

Case Presentation

A 21-year-old male, previously healthy, presented to our outpatient department with complaints of:

- High -grade fever for 5 days
- Yellowish discoloration of eyes and urine for 3 days
- Vomiting for 5 days
- Loose stool for 2 days

There was no history of alcohol intake, hepatotoxic drug use, blood transfusion, or high-risk sexual behaviour. No similar illness was reported in the family. He reported recent consumption of street food and untreated water.

On Examination

- Vitals: BP 100/60 mmHg, HR 64/min, afebrile at presentation
- Icterus present; no pallor, cyanosis, or lymphadenopathy
- Abdomen: Mild hepatomegaly (liver span 14 cm), non-tender; no splenomegaly or ascites
- Other systems: Normal

Laboratory investigations

Parameter	Result	Reference Range
Total bilirubin	3.40 mg/dL	0.2–1.3
Direct bilirubin	2.79 mg/dL	0.0–0.4
AST	2,044 U/L	<59
ALT	2,540 U/L	<50
ALP	215 U/L	38–126
PT/INR	15.7/1.35	–
Anti-HAV IgM	Positive	–
Anti-HEV IgM	Positive	–
HBsAg, anti-HCV, HIV	Negative	–

Ultrasound abdomen: Mild hepatomegaly with normal echotexture; no biliary dilatation or ascites.
Diagnosis: Acute viral hepatitis due to HAV–HEV co-infection.
Management:
The patient was admitted for observation and managed with:

- Bed rest and hydration
- Oral nutritional support with adequate carbohydrates and protein
- Symptomatic treatment with antiemetics
- Monitoring of liver function and coagulation profile

Outcome:
The patient's symptoms improved over 7 days. Liver enzymes declined gradually, and jaundice started resolving gradually. He was discharged with advice on hygiene, safe drinking water, and avoidance of alcohol and hepatotoxic drugs.

DISCUSSION

Co-infection with HAV and HEV is uncommon but has been reported in endemic areas such as South Asia. In National laboratory surveillance data generated during 2014-2017 prevalence of co-infection by hep A and hep E was 1.3% among 24,000 tested positive for hep A or hep E in India. In a study for Prevalence of Hepatitis A virus (HAV) and Hepatitis E virus (HEV) in patients presenting with acute viral hepatitis at a tertiary care Hospital in Western India of the 1,807 specimens processed from the patients with Acute Viral Hepatitis, 120 (6.70%) were positive for IgM anti-HAV antibodies and 154 (8.5%) were positive for IgM HEV antibodies. A total of 11 patients (0.60%) were positive for both anti-HAV IgM and anti-HEV IgM antibodies indicating HAV-HEV coinfection. Both viruses share a fecal-oral route of transmission, making co-infection possible in outbreaks or contaminated water exposure.
Clinical course: Most co-infections present similarly to single-virus infections, but some studies suggest higher rates of acute liver failure, especially in adults, pregnant women, and those with pre-existing liver disease. In this case, the patient recovered fully with supportive care, reflecting the generally self-limiting nature in immunocompetent individuals.
Diagnosis: Concurrent detection of anti-HAV IgM and anti-HEV IgM confirms acute co-infection. The possibility of false positives should be considered, but correlation with clinical and biochemical findings strengthens the diagnosis.
Prevention: Improved sanitation, safe drinking water, and vaccination against HAV (where available) remain the main preventive measures. No licensed HEV vaccine is widely available except in select countries.

CONCLUSION

HAV–HEV co-infection, though rare, should be considered in patients with acute hepatitis from endemic areas. Early recognition and supportive management usually lead to complete recovery in healthy individuals, but vigilance is warranted due to the risk of acute liver failure.

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