Sporadic Acute Hepatitis E – A Case Report

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Abstract

Most cases of hepatitis E in the UK have been linked to travel to endemic countries. However sporadic cases of hepatitis E have been reported in the absence of travel to risk areas. This is an under diagnosed phenomenon. A case of locally acquired hepatitis E is presented.

Introduction

Hepatitis E is the leading cause of acute viral hepatitis in the world. However it is rare outside the endemic areas. Most cases of hepatitis E in the developed world have been linked to travel to endemic countries. Sporadic cases of hepatitis E have been reported from the UK in the absence of travel to endemic areas[1,2,3]. It is an under-diagnosed phenomenon. The Health Protection Agency implemented an enhanced surveillance for hepatitis E virus in England and Wales since 2005. This has led to report of more cases of hepatitis E than ever. Thirty three new cases were reported in 2005[4]. We present a patient with acute hepatitis E in the absence of any obvious risk factors for hepatitis E - specifically travel to an endemic area.

Case report

A 59 year old man presented with a one week history of malaise, yellow discolouration of the skin, itchiness, pale stool and dark urine. He did not have any abdominal pain. His past medical history included bronchial asthma, anal fissure and chronic skin itchiness. He took two inhalers for his asthma and cetirizine as required. There was no recent history of travel or antibiotic usage. He did not have any risk factors for liver disease. His alcohol intake was 14 units per week. He was jaundiced but physical examination was otherwise normal with no stigmata of chronic liver disease. Results of tests included bilirubin 108μmol/L, alanine aminotransferase 529 IU/L and alkaline phosphatase 192 IU/L. An abdominal ultrasound was normal. His liver injury tests resolved in six weeks with his clinical improvement. An initial viral hepatitis screen was negative for markers of hepatitis A, B and C. An autoantibody screen was negative too. Hepatitis E serology was requested and was positive for IgM antibody to hepatitis E virus (HEV), consistent with acute hepatitis E infection. The result was later confirmed with positive HEV RNA on PCR.

Discussion

HEV is a single stranded RNA virus transmitted primarily through the faecal-oral route in contaminated drinking water. The clinical features and laboratory findings of HEV are similar to those of acute viral hepatitis A. One distinctive clinical feature of HEV is its unexplained increased incidence and severity in pregnant women resulting in an inordinately high mortality rate of 15 to 25 percent, primarily affecting women in the third trimester[5,6,7].

HEV is endemic in Asia, Africa, Middle East and Central America where it causes large epidemics due to inadequate sanitation. In non-endemic areas like Europe and the USA, HEV infections are mainly associated with travel to endemic areas[8,9,10]. However, rare cases of acute HEV have also been reported from these regions in the absence of travel to risk areas[11-14]. Various explanations have been given for these community-acquired cases of acute HEV. Firstly, HEV infection may be more prevalent in industrialised nations than previously appreciated. For example, fulminant HEV-associated hepatitis is found in Europe, where 1-5% of healthy adults have anti-HEV antibodies[15]. In addition seroprevalence studies in USA reveal presence of HEV antibodies in 1 to 2 percent of blood donors, a frequency much

higher than that of acute HEV infection[16,17]. Secondly HEV may be a zoonotic infection. HEV infection has been demonstrated in pigs in several countries[18,19]. Further human infection with HEV with strains identical to porcine strains has also been described[20]. The most direct evidence of zoonotic transmission was described in a case study from Japan. In this case, members of a family group were infected following consumption of uncooked sika deer meat. The virus identified from the patients was shown to be identical to that recovered from uneaten quantities of meat from the same deer[21]. Thirdly, consumption of imported food contaminated with HEV may also be responsible for acute HEV. This mechanism has been responsible for cases of hepatitis A[22]. Thus there may be a reservoir of HEV in these presumably non-endemic countries.

Compared with patients with travel-associated disease, patients with non-travel-associated disease in England and Wales were more likely to be white men over 55 years old[4,23]. This is a striking demographic difference compared with the travel group.

Acute hepatitis may be caused by viruses, hepatotoxins especially ethanol, drugs, metabolic disorders (Wilson's disease) and immune attack such as autoimmune hepatitis. A standard screen in suspected acute viral hepatitis includes hepatitis A and B. If these are negative we recommend that HEV serology should be performed even in the absence of clear risk factors. Few laboratories in the UK test routinely for HEV and those centres that do test are usually referred specimens only from patients with a history of travel to an area where HEV is endemic. This may well change with enhanced awareness and efforts of the Health Protection Agency.

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