

# Hepatitis in the traveller

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## Abstract

Hepatitis is an important cause of infection in the returning traveller. Patients present with either a primary liver infection accompanied by jaundice, or a systemic febrile illness complicated by hepatitis (liver inflammation). Rarely, it can result in life-threatening fulminant liver failure. An accurate history narrows the differential diagnosis and allows the selection of appropriate investigations. Acute viral hepatitis A, B, C and E are endemic worldwide and often considered during initial investigations. However, it is important to rule out malaria and consider other important pathogens such as those for leptospirosis, infectious mononucleosis, yellow fever and dengue, as well as liver flukes. Despite the availability of effective vaccinations against hepatitis A and B, these are still important causes of illness in returning travellers. Hepatitis E is the most common cause of acute hepatitis in the UK and can cause severe disease in some population subgroups. The nature of travel is changing, with larger numbers of people visiting tropical and subtropical regions. This, combined with a growing interest in adventure sports, means that the myriad causes of hepatitis are likely to continue to be seen in travel clinics for the foreseeable future.

**Keywords** Hepatitis; jaundice; MRCP; travel medicine; tropical medicine; zoonosis

## Introduction

In the tropics, there are many infectious and non-infectious causes of hepatitis (liver inflammation) (Figure 1). Hepatitis in the traveller presents as deranged liver function tests  $\pm$  jaundice  $\pm$  systemic febrile illness. In a GeoSentinel survey, acute hepatitis occurred in 115 per 1000 returning travellers presenting with a non-diarrhoeal gastrointestinal disorder.<sup>1</sup> A separate analysis of data from 1997 to 2007 found that acute viral hepatitis (A and B) was the second most common vaccine-preventable disease occurring in ill travellers.<sup>2</sup>

## Clinical assessment

Illness severity should be assessed, and unwell or high-risk individuals admitted. Features suggestive of acute liver failure require urgent patient referral to a liver unit (Figure 2). The travel history and timeline are fundamental, including locations, activities, animal contact, water contact, sanitation, vaccine and chemoprophylaxis history, sexual activity and healthcare. Travellers visiting friends and relatives are at greater risk of travel-

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## Key points

- Hepatitis is an important cause of illness in the traveller that presents as a primary liver infection or part of a systemic febrile illness
- Although uncommon, features of liver failure should be sought and any cases urgently referred to a liver unit
- Hepatitis A and B are vaccine-preventable infections and efforts should be made to increase uptake during pre-travel consultations
- Hepatitis E is more common than previously thought and certain populations carry an increased risk of severe disease, e.g. pregnancy, immunosuppressed, pre-existing liver disease
- There are increasing numbers of high-risk travellers, e.g. visiting friends and relatives, adventure travel, immunosuppression

related health problems. Past medical history (e.g. liver disease), medications (e.g. immunosuppressants) and social history (e.g. alcohol) are important.

Initial investigations include blood, urine and stool cultures followed by serology for hepatitis A/B/C/E, Epstein–Barr virus (EBV), cytomegalovirus (CMV) and HIV. Malaria should always be considered if the individual has potentially been exposed to it. Eosinophilia can suggest parasite infection, for example fascioliasis, opisthorchiasis or clonorchiasis. Ultrasound of the liver may reveal evidence of chronic liver disease, biliary obstruction, parasitic infestation or mass lesions.

## Conditions commonly associated with hepatitis in travellers

### Hepatitis A

Hepatitis A virus (HAV) causes a self-limiting acute hepatitis and rarely fulminant liver failure. It is transmitted faeco-orally and has explosive epidemic potential. Globally, it is an asymptomatic childhood infection leading to life-long immunity; adults are rarely affected. However, with increasing sanitation, anti-HAV seroprevalence rates are falling, as is herd immunity.

The incubation period is 2–6 weeks, and individuals present with jaundice, mild fever, nausea and vomiting. Anti-HAV immunoglobulin (Ig) M confirms recent exposure. Management is supportive and most patients make a full recovery. Anti-HAV IgG determines prior exposure/vaccination.

Offer vaccination to travellers to endemic areas. Regardless of their travel plans, susceptible high-risk individuals should be vaccinated; these include men who have sex with men, people who inject drugs and individuals living with HIV or chronic hepatitis B or C.

### Hepatitis E

Hepatitis E virus (HEV) also causes a self-limiting acute hepatitis. Genotypes 1 and 2 circulate in humans (faeco-oral transmission),

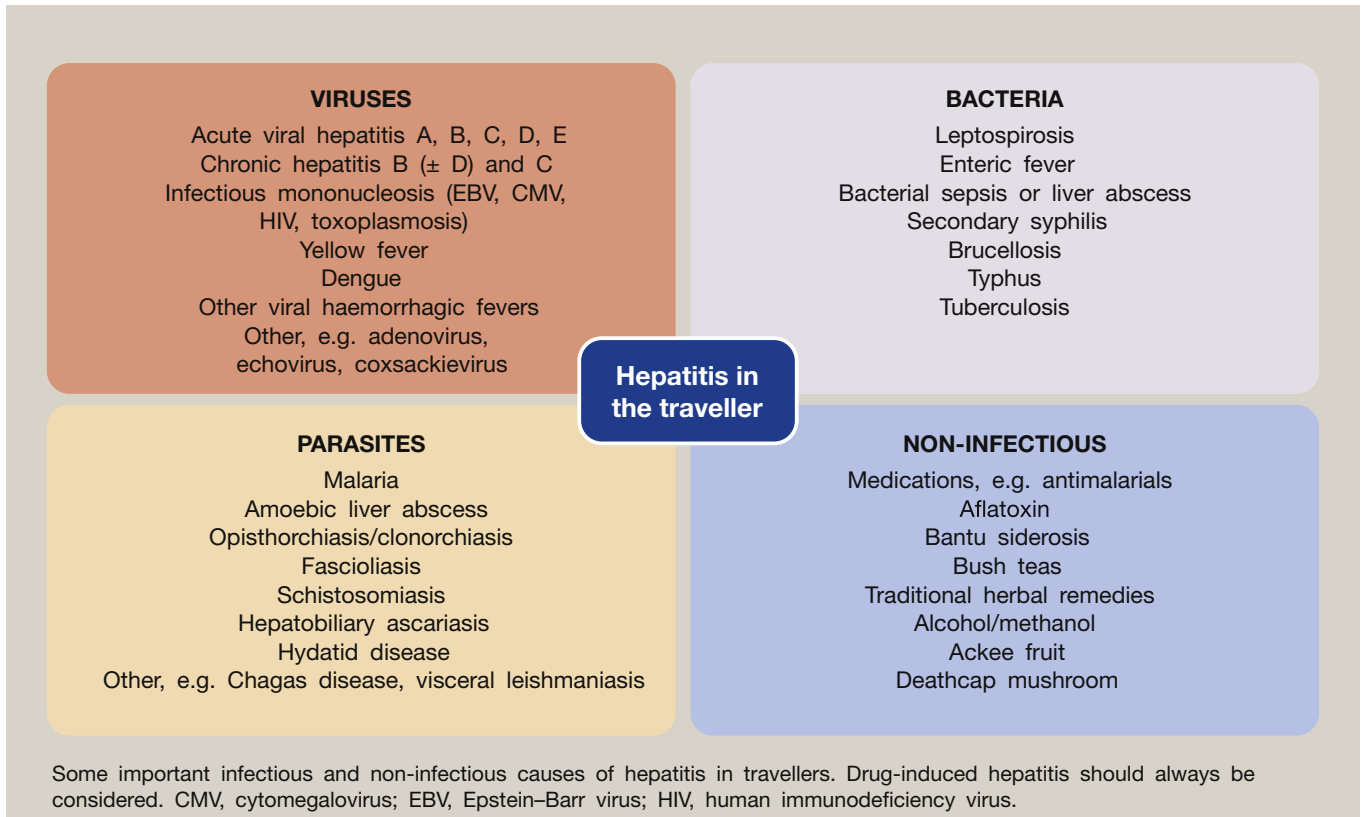


Figure 1

whereas genotypes 3 and 4 are porcine zoonoses (from under-cooked meat). HEV is the most common cause of acute hepatitis in the UK – the number of indigenous cases (genotype 3) is rising, while that of imported cases (mostly genotype 1 from South Asia) remains stable.<sup>3</sup>

The incubation period and presentation are similar to HAV. Patients can present with fulminant liver failure (usually genotype 1) – pregnancy, pre-existing liver disease and immunosuppression increase this risk. Anti-HEV IgM confirms recent exposure; in areas where HEV is less common, quantitative polymerase chain reaction is preferred. Management is supportive; individuals who are pregnant or have fulminant disease should be admitted to hospital. A vaccine is available, but only in China.

### Hepatitis B and C

Hepatitis B and C are blood-borne viruses with worldwide endemicity. Both can cause acute hepatitis, although they are more commonly associated with chronic disease, which can lead to liver fibrosis, cirrhosis and/or hepatocellular carcinoma. Collectively they are responsible for the majority of the global burden associated with viral hepatitis, which has overtaken HIV, tuberculosis, and malaria to become the 7th leading cause of death worldwide.<sup>5</sup>

Acute hepatitis B is diagnosed by detecting hepatitis B surface antigen (HBsAg) and IgM antibody to the core antigen (anti-HBc IgM). Because most adults clear the virus spontaneously, treatment of acute hepatitis B is only indicated if there are features of

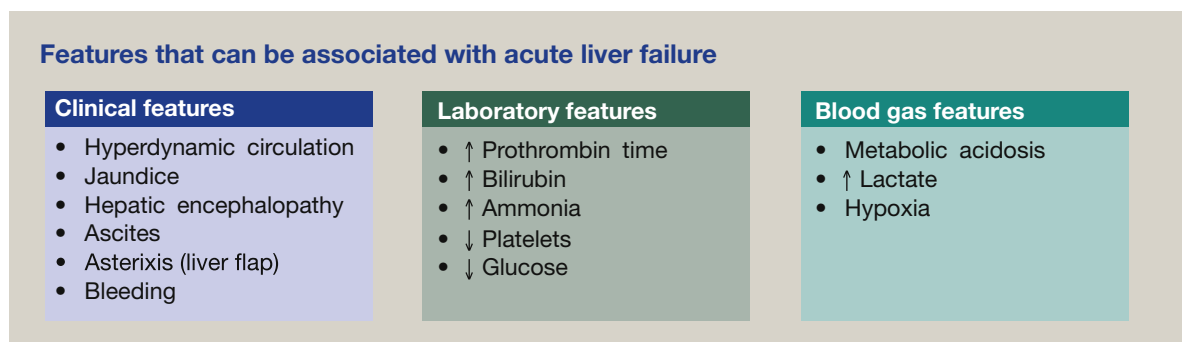


Figure 2

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