Hepatitis C

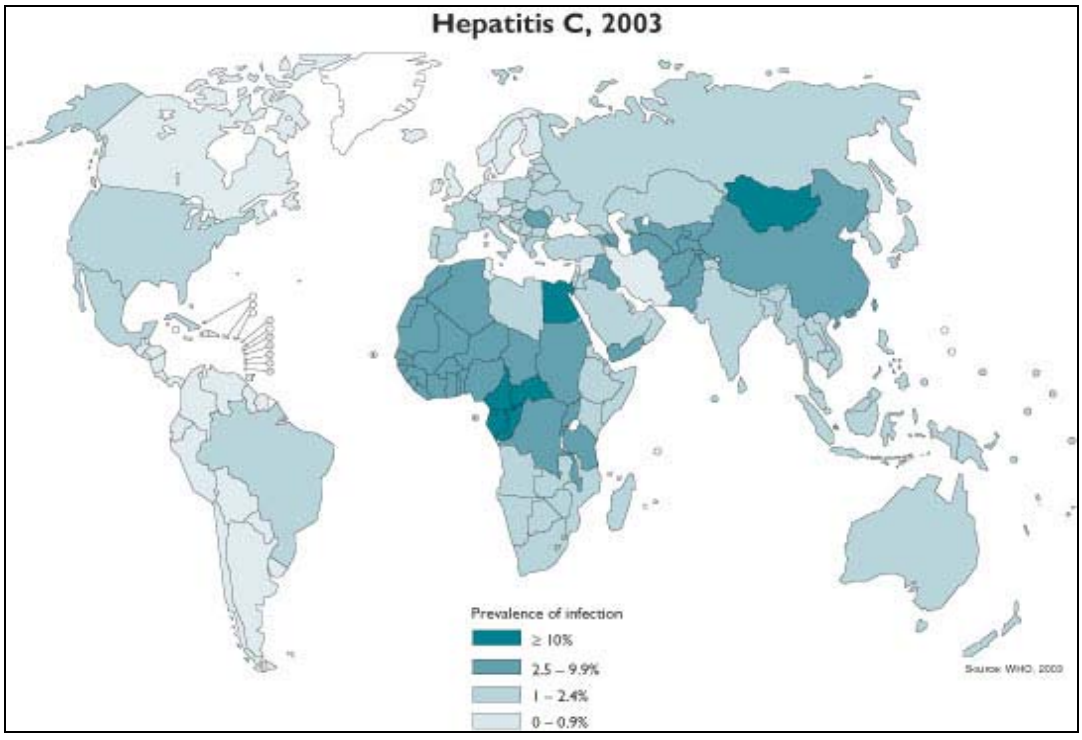
Introduction

Hepatitis C is one of several hepatitis viruses that can cause both acute hepatitis and chronic liver disease. Hepatitis C is a spherical, enveloped RNA virus of the genus Hepacivirus and is transmitted most commonly through direct contact with infected blood.
The disease is present throughout the world, but has a higher prevalence in parts of Africa, Asia and South America. It is estimated that 170 million people worldwide are chronically infected with the hepatitis C virus.

Epidemiology

(Data from the Travel Health Surveillance Section of the Health Protection Agency Communicable Disease Surveillance Section)

Global Epidemiology



Hepatitis C virus (HCV) is prevalent worldwide, with an estimated 170 million people (3% of the world's population) infected and at risk of developing liver cirrhosis and/or liver cancer (1). There is limited data available on the global prevalence of HCV as most infections are asymptomatic and data is limited to certain population sub-groups.

The WHO, however, published their first estimate of global prevalence of HCV in 1997. Two hundred and sixty-six journal articles that reported seroprevalence rates of HCV in various population sub-groups in different countries were reviewed (2). After various exclusion criteria were applied, 116 of the most representative studies (one per country) were selected and countries were grouped according to WHO regions. In 1997, it was estimated that 160 million people were infected with HCV and that HCV was present in all but three countries (Botswana, Peru, and Zambia) where data was available. The study also found very high prevalence rates in population sub-groups (*eg* volunteer blood donors) in countries such as Egypt, Bolivia, Burundi, Cameroon, Guinea, Mongolia, Rwanda, and the United Republic of Tanzania. The WHO regions where prevalence was reported to be high are Africa, the Eastern Mediterranean, South-East Asia and the Western Pacific. Lower prevalence was found in countries in North America and Europe.

The prevalence estimates currently in use were updated in December 1999 and represent seroprevalence rates in certain population sub-groups from 131 countries up to June 1999 (3). On a global scale, the United Kingdom is considered a relatively low prevalence country. Studies looking at the seroprevalence of HCV in England suggest that approximately 0.5% of the population has antibodies to HCV. Around 20% of those infected are expected to clear the infection naturally; the estimated prevalence of chronic HCV infection in England therefore, is 0.4% (4).

Hepatitis C in travellers

HCV is not a 'typical' travel-related disease and risk factors such as intravenous drug use and receipt of transfusions/blood products are important in determining whether a person acquires HCV infection wherever they are in the world. Travellers with these risk factors may however, be at an increased risk of infection in highly endemic countries.

Laboratory surveillance of HCV infections in England and Wales began in 1992 and up to 2002, there were 242 HCV infections reported as having been acquired abroad, representing 0.7% (242/35035) of the total. Country of infection was reported for 81.8% (198/242) of which, Italy (11.1%, 22/198), Pakistan (10.6%, 21/198), and Spain (8.1%, 16/198) were the most commonly reported. Of those infections reported as being acquired abroad, 38.4% (93/242) stated risk factors, of which injecting drug use (49.5%, 46/93) was most frequent, followed by transfusion (25.8%, 24/93) and being in receipt of blood products (5.4%, 5/93) (5).

A cross-sectional survey was undertaken by Balogun *et al* (6) in seven public health laboratories throughout England and Wales to determine the frequency of reported risk factors and possible transmission routes in those in whom HCV antibody was newly detected. Of 221 HCV infections reported between 1st November 1996 and

31st January 1997, 26 (11.8%) were reported to have been acquired abroad; of those, 14 had another known risk factor and 12 did not. Injecting drug use was the most common risk factor for infections acquired overseas.

Risk for Travellers

The risk to most travellers is very low. High risk exposures include the use of blood contaminated needles and syringes, and undergoing acupuncture, tattooing or body piercing.

Exposure to blood in a medical setting is also a risk, with transmission occurring in 2 to 8% of persons experiencing a needle-stick injury.

Medical emergencies requiring blood transfusions that have not been screened for hepatitis C are a potential risk for infection.

Transmission

Hepatitis C is primarily acquired following contact with infected blood. Although sexual transmission is presumed to occur, it is uncommon.

Prior to routine screening procedures, hepatitis C was mainly contracted by transfusion of contaminated blood or blood products. The infection is now transmitted through contaminated needles and syringes (particularly between injecting drug users) and skin piercing procedures such as tattooing and acupuncture.

Signs and Symptoms

Around 80% of hepatitis C cases are asymptomatic.
If clinical illness does occur, symptoms begin about 7 weeks after infection and include abdominal pain, nausea, loss of appetite, dark urine and jaundice.
70-80% of infected persons will have chronic low-grade hepatitis leading to chronic liver disease, and at the end-stage, the possibility of cirrhosis, liver failure and hepatocellular carcinoma. Co-infection with hepatitis C and HIV is synergistic in leading to chronic liver disease.
Chronic hepatitis C is the leading cause for liver transplantation in the United States, (7) and was the second leading cause in the UK in 2003, after alcoholic cirrhosis, with 11% of transplants being performed due to hepatitis C cirrhosis.(8)

Treatment

The goal of hepatitis C management is to prevent the long term complications of chronic hepatitis.
Several antiviral regimens have been assessed with the most effective treatment being a combination of interferon and ribavirin. Both drugs may cause adverse events which can be severe in some cases; patients therefore require close monitoring.
Patients should also not drink alcohol, and avoid potentially hepato-toxic agents such as paracetamol, and be immunised against hepatitis A and B.

Prevention

There is no vaccine available to prevent hepatitis C.
Travellers should be advised to avoid situations and activities that pose a potential risk. In doing this they will also reduce the risk of other blood borne viruses including hepatitis B and HIV.
Travellers who will not be within easy reach of reliable medical facilities should be advised to carry a sterile medical kit.
All travellers are advised to avoid tattooing, acupuncture and body piercing.

References

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Reading List

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