Patient Information on Hepatitis E Virus

HEPATITIS E VIRUS AND SOLID ORGAN TRANSPLANTATION IN UK

What is hepatitis E?
Hepatitis E is an illness of the liver caused by the Hepatitis E Virus (HEV), a virus which can infect both animals and humans. There are four genetic types 1-4 (G1-G4) of HEV. HEV infection usually causes no symptoms but if it does, it produces only a mild disease, hepatitis E. In rare cases of G1, G2 and G4 infections, however, it can prove fatal, particularly in pregnant women. The common virus in this country and Europe, G3 does not do so. Normally the G3 virus infection will clear by itself. However, it has been shown that in individuals whose immune system is suppressed following transplantation the virus can result in an asymptomatic persistent infection which may lead to chronic inflammation of the liver.

Incidence: uncertain but is increasing in NW Europe. HEV RNA found in about 1 in 2-3000 blood donors\(^1\). The incidence in UK deceased solid organ donors not certain.

Source of infection: G3 is acquired through the diet, mainly inadequately cooked pork, wild boar and venison, but may also be transmitted by blood, blood products and organs. Based on current data, it seems that there is a much greater risk of infection from diet than from blood or organ transmission.

Natural history: The incubation period is around 40 days and the viraemic period is about 3 weeks but virus is excreted in stool for a further two weeks. Infection is usually mild and may be anicteric. Chronicity may be seen in immunosuppressed patients, particularly in the solid organ transplant recipient in whom immunosuppression is long-term. The persistent liver infection may progress to chronic hepatitis and cirrhosis.

How can I tell if I have been infected by HEV?
Symptoms of hepatitis E infection include yellowing of the skin and eyes (jaundice), darkening of the urine and pale stools preceded by tiredness, fever, nausea, vomiting, abdominal pain and loss of appetite and usually resolves within four weeks. These symptoms are not specific for HEV. Immunosuppression makes it less likely that the person will develop symptoms but blood tests can be undertaken to confirm HEV infection.

How common is hepatitis E?
Hepatitis E due to G1, G2 and G4 occurs in regions of the world where sanitation may be poor. This includes parts of Asia, Africa and Central America. However HEV infection caught in this country is caused by G3. This was first recognised in 2003 and the numbers of confirmed G3 hepatitis E cases and infections have increased significantly over the past few years. It is now likely that as many as 100,000 persons may suffer acute infections each year and that less than 1 in 100 will have any illness at all.

How is hepatitis E virus transmitted?
Throughout the developing world, the virus is transmitted by the consumption of human sewage-contaminated food or water. In the developed world the virus is believed to transmit from animals to humans through the consumption of undercooked or raw pig and game meat, processed pork, and shellfish. Person to person transmission of the G3 virus is very rare though the virus has been transmitted through blood transfusion and transplantation. Someone with hepatitis E should always wash their hands after using the toilet.

How is chronic hepatitis E treated?
Patients with chronic infection may cure themselves of the infection either spontaneously or by minor changes in the immunosuppressive regimens. Where this is not the case antiviral treatment has been used successfully.

Can hepatitis E infection be prevented?
Currently, there is no licensed vaccine for hepatitis E. In the UK it is important to make sure that food containing pig meat until steaming hot throughout, the meat is no longer pink and the juices run clear (especially sausages) is thoroughly cooked, . When travelling to countries with poor sanitation, it is advisable to boil all drinking water, including water used for brushing teeth. Avoid the consumption of raw or undercooked meat and shellfish. Following this guidance will help to reduce the risk from other hazards which may be associated with food (e.g. Listeria)

Where can I get further help?
Further information and advice is available from:
NHS Direct (Tel: 0845 46 47 or www.nhsdirect.nhs.uk ) or
NHS Inform in Scotland (www.nhsinform.co.uk or 0800 22 44 88) or your own GP
The British Liver Trust (Tel: 0800 652 7330 or www.britishlivertrust.org.uk/home.aspx ).
(www.food.gov.uk/science/microbiology/hepatitis-e)