



ISSUE TEN

BIRCHGROVE

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Hepatitis C

WHAT IS HEPATITIS C?

Hepatitis C, (formerly called non-A, non-B hepatitis) is an infection of the liver caused by a recently identified bloodborne virus. The Hepatitis C virus was first isolated in 1989 and in 1991 a reliable test for Hepatitis C antibody detection became available in the UK. Since 1991 the test has been routinely used for screening all blood donations. The Hepatitis C virus infection is found in 0.5% to 8% of blood donors worldwide.

WHO GETS HEPATITIS C?

Hepatitis C occurs most often in people who have received blood transfusions, major pooled blood products or those who have shared needles.

People with chronic (persistent) Hepatitis C, are often only mildly symptomatic, the infection being slowly progressive, but up to 25% of patients may develop cirrhosis after at least 20 years of infection, and a number of those with cirrhosis will develop hepatocellular carcinoma (liver cancer).

Some people infected with the Hepatitis C virus will become sick with jaundice or have other symptoms. Up to eighty percent of these individuals may go on to develop chronic liver disease.

HOW CAN THE SPREAD BE PREVENTED?

Hepatitis C is spread by exposure to blood from an infected person, such as through a blood transfusion, the sharing of needles or unsterile tattooing. There is no evidence that it can be transmitted by casual contact, through foods or by coughing or sneezing.

The risk of sexual transmission of the Hepatitis C virus appears to be small. Sexual activity should be considered risky if infected blood is able to get into another person's bloodstream. Follow safe sex practices.

Pregnant women infected with Hepatitis C are believed to have only a small risk of transmitting the virus to their unborn child. People who have Hepatitis C should be aware that their blood, and possibly other body fluids, are potentially infective. Care should be taken to avoid the sharing of toothbrushes, razors, needles, etc. Infected people and their partners must not donate blood etc. and should inform their healthcare providers.

WHAT ARE THE SYMPTOMS?

Many people with Hepatitis C have no discernable symptoms. Although some people can experience appetite loss, fatigue, nausea and vomiting, vague stomach pain and jaundice.

Initial symptoms may occur from two weeks to six months after exposure to the virus. The disease may occur in the acute form and be followed by recovery, or it may become chronic and cause further symptoms over a prolonged period. People may continue to carry the virus in their bloodstream, and remain contagious.

WHAT IS THE TREATMENT?

There are no special medicines or antibiotics that can be used to cure people of Hepatitis C, but a drug called recombinant Interferon- α is often used for people with chronic Hepatitis C. Hepatitis C leading to liver failure, can be an indicator for liver transplantation in a limited number of people.

What is Hepatitis C?

Hepatitis C is an infection of the liver caused by a recently identified bloodborne virus.

WHAT IS HEPATITIS C?

Hepatitis C is an inflammation of the liver, caused by an infectious viral agent and it is characterised by jaundice, fever, liver enlargement, and abdominal pain. The Hepatitis C virus was first isolated in 1989 using genetic engineering techniques and in 1991 a reliable test for Hepatitis C antibody detection became available in the UK.

WHAT IS THE EVOLUTION OF THE DISEASE?

Although the exact natural evolution of Hepatitis C is unknown, it is thought that up to 80% of people infected with Hepatitis C will develop chronic hepatitis; and of those 20-30% may progress to cirrhosis and perhaps 50% of those with cirrhosis may develop hepatocellular carcinoma. Some people may develop chronic Hepatitis C infection without abnormal elevations of liver enzymes in the blood.

The initial Hepatitis C infection is infrequently identified, it is not usually severe, and does not require any specific treatment, it is necessary to wait six months to determine whether the infection has become chronic. It can take between 20-40 years for a percentage of those with chronic Hepatitis to develop liver cirrhosis. It should be born in mind that some haemophiliacs will already have had the infection for up to thirty years. This would depend on when they first received treatment with pooled blood products.

The risk of developing liver disease is significantly greater if the patient has HIV, and the rate of progression for either liver failure or the onset of an HIV related illness may be speeded up. This may be due to the significant role that an effective immune system plays in the control of viral infections.

WHAT ARE GENOTYPES?

Genotypes are the different strains or types of the Hepatitis C virus. Currently there are six known genotypes and most of these genotypes are known to have sub-strains. With the most common being type 1 with types 2 and 3 occurring less often.

The distribution of genotypes in haemophiliacs, many of whom were exposed to U.S. concentrate, was dissimilar to that in persons who acquired the infection after transfusion of local blood. Some haemophiliacs were infected with mixed genotypes, and with genotypes not found in the UK. Genotype 4 is common in the Middle East and Zaire; genotype 5 is predominant in South Africa although found rarely elsewhere. Tracing viral genotypes may question the sources of the plasma.

Progressive changes in the genotypes affecting individuals are thought to be associated with a poor response to treatment. This problem seems to particularly affect those people who are co-infected with HIV in addition to Hepatitis C. The identification of Hepatitis C genotypes is important as the response to treatment appears to depend on the strain of virus which is present. Also, it is believed that some genotypes are more likely to be associated with the development of cirrhosis.

HOW MANY HAEMOPHILIACS HAVE HCV?

There are approximately 3,000 haemophiliacs infected with Hepatitis C in the UK. Any haemophiliac, or person with a low clotting factor, who received freeze dried concentrate before 1986 is likely to have been infected with Hepatitis C. It is thought that over 90% of all UK haemophiliacs are Hepatitis C positive, 10% (mainly those who have not received freeze dried concentrate) are therefore Hepatitis C negative. Every time a haemophiliac injected a bottle of concentrate they are likely to have been re-infected with the virus. Hepatitis C tends to be more severe in haemophiliacs.

Hepatitis C is thought to be present in about 0.2% of the UK population (1 in 500 people), and is present in much higher frequencies in other parts of the world.

WHAT SCREENING IS DONE FOR HEPATITIS C?

Since 1991, blood donors have been routinely subjected to a blood donor screening test for Hepatitis C. Widespread use of this test has significantly reduced the number of post transfusion Hepatitis C cases. The risk is now thought to be one in 3,000 units of blood, or 0.12% for the typical recipient of a transfusion. Before screening tests were introduced, up to 20% of people who received blood transfusions risked developing Hepatitis C infection.

An experimental blood test that detects antibodies to Hepatitis C in donated blood identifies many, but not all, tainted units, two studies indicate. The data suggests that the test will reduce the number of transmission-associated cases of Hepatitis C. But the test's inability to flag all infectious units hints at the presence of an undiscovered causative agent underlying in some Hepatitis cases, and highlights the difficulties of eliminating liver disease.

Since 1985, all Factor VIII and IX concentrates have been heat treated and/or chemically processed to reduce the risk of viral transmission. Although cryoprecipitate which may be used in a small number of cases cannot be treated to inactivate viruses.

Screening for viral contamination can be carried out on pooled blood products, by using a PCR test (polymerase chain reaction), which magnifies the presence of viral particles in the blood. Unfortunately, it appears that this screening test is not currently used routinely on heat treated blood products.

Contaminated batches of Gammagard, a non-heat treated blood product, which is primarily used to boost a patient's immune system, caused many patients, mostly children, to contract the Hepatitis C virus.

HOW CAN I PREVENT TRANSMISSION?

Hepatitis C is not thought to be highly infectious. It cannot be transmitted by normal social contact, through the air, or by touching or kissing a person who is infected.

You should advise your healthcare workers, including dentists, of your status. If you are infected with Hepatitis C you and your partner should not donate blood, plasma, body organs, tissue or sperm. You and your partner should not share needles or injecting equipment, such as needles or syringes etc. Sharps or items used for intravenous injection should be disposed of carefully to avoid the risk of needlestick injury.

You and your partner should not share toothbrushes, razors, scissors or nail files. All these items may have come into contact with infected blood and could be responsible for transmitting the Hepatitis C virus.

In dealing with soiled items you should wear disposable gloves. Wipe up all blood spills with bleach and cover cuts and wounds with a clean waterproof dressing. Dispose of blood stained tissues, sanitary napkins and other dressings safely. Hepatitis C is a particularly hardy virus, and it may be capable of surviving in dried blood for prolonged periods of time. Some sources believe that this could be for up to eight weeks!

Follow safe sex practices. Even if Hepatitis C is not a sexually transmissible disease (STD), it is advisable to consider prevention of other STD's.

WHAT ARE THE RISKS OF SEXUAL TRANSMISSION?

The risk of sexual transmission of the Hepatitis C virus appears to be small. Several studies suggest that spread seldom occurs from people with chronic Hepatitis C disease to their steady sexual partners. Sexual activity should be considered risky if infected blood is able to get into another person's bloodstream. This would include, for example, anal intercourse and sex during menstruation. Follow safe sex practices.

The Japanese have done a study following couples with no risk factors other than sex. They found that there was a 15-25% chance of spread between an affected person and their partner. There still is no data about whether or not condoms are totally effective.

All sexual partners of those who are Hepatitis C positive should have access to regular clinical and virological monitoring. Monitoring of sexual partners for seroconversion, offers the prospect of early treatment with drugs such as Interferon- α , when it appears to be more effective.

WHAT ARE THE RISKS OF HEPATITIS C TRANSMISSION IN CHILDBIRTH?

Mother to baby transfer (vertical transmission) has been reported in a small number of pregnancies.

Mothers whose serum is Hepatitis C positive, can transmit Hepatitis C in 10% of cases of pregnancy. This can be as high as 25% if the mother is also HIV positive. Those mothers who have a high level of the Hepatitis C virus appear to transmit Hepatitis C in up to 40% of infants.

The virus has been found in breast milk, but there are no reported cases of babies being infected in this way. Currently doctors do not advise against breast feeding. You should tell your obstetrician or gynaecologist about your infection so that he can check and perhaps take further advice.

WHAT ABOUT ALCOHOL AND DRUG USE?

As a general principal, if you have Hepatitis C infection it is best to avoid taxing your liver. It is advisable to avoid alcohol, (which is probably the worst drug to use), and avoid the impurities involved in all street drugs. It may also be important to consider limiting your intake of tea, coffee and nicotine.

Alcohol consumption speeds up the progression of liver disease and in general the less alcohol consumed the better. Guidelines suggest that it may be possible to consume up to 21 units per week for men, and 14 units per week for women, although others believe that only an occasional drink is acceptable. A pint of beer contains the same amount of alcohol as a double measure of spirits or a large glass of wine. They all have the same effect on the liver, whether taken straight or diluted with water.

But, some people feel that they are more able to tolerate, (have less of a hangover), certain types of alcohol. Grain based spirits, seem particularly hard to cope with, while some feel that white wine is easier to tolerate than red wine. There is even a belief that favours the drinking of dark beers and stouts against more acidic alcohol, such as lager and cider. Choose your poison carefully!

As far as drug use is concerned, purer forms of drugs are advisable in all cases, for instance pharmaceutical heroin (methadone) is better than street heroin, pharmaceutical amphetamines are better than street amphetamines, but this is only a minor improvement.

Hepatitis C generally increases the chance of overdosing (especially on alcohol, and benzodiazepine tranquillisers such as: Valium, Mogadon, and Temazepam) because the liver cannot handle the doses of the drugs to which the user was formerly accustomed. It is possible to mistake the symptoms of Hepatitis C for the signs of hanging out. This can lead to overdosing, especially when the inclination to take more drugs presents itself, along with the livers decreased ability to remove the substances from the body.

We neither condemn or endorse alcohol or drug use. We do feel that it is essential that you make informed decisions about your health.

WHAT MEDICINES AFFECT MY LIVER?

Apart from alcohol, many drugs and toxins are broken down by the liver. People with significant liver disease metabolise and eliminate drugs and toxins more slowly than normal. This can lead to an increase in drug toxicity or an exaggeration of the therapeutic effects of a drug. Medications may be prescribed in reduced dosages to such individuals, these may include sedatives, pain killers, some diuretics, non-steroidal anti-inflammatory agents, steroids and many others.

Some drugs, even in normal doses, can worsen the condition of those suffering from liver disease. This can be as a result either, of a direct toxic effect, or through a drug allergy.

Anaesthetics can occasionally have an adverse effect on the liver. Before any surgical procedure is carried out, it is important that the surgeon and the anaesthetist are fully aware of your medical history including the condition of your liver.

Large doses of the painkilling drug, paracetamol can damage the liver and an overdose causes severe liver damage or death, the problem may not become obvious until several days after the overdose. Normal, recommended doses appear to be safe, but it may be advisable to discuss regular dosages with your doctor.

WHAT SYMPTOMS CAN HEPATITIS C CAUSE?

Although most people do not experience problems, the symptoms of Hepatitis C can be many and variable. Quite frequently, the patient has no noticeable symptoms until liver damage occurs after many years of infection. Symptoms may include: generalised tiredness, itching (generalised or localised), mood changes (irritability, depression etc.), low-light vision, heat intolerance, muscle pain and skin eruptions. It is not easy to attribute symptoms of ill-health directly or indirectly to Hepatitis C or liver related complications.

There seems to be a pattern to many people's reactions to Hepatitis C; for a while you may feel pretty good, then bad (maybe days or weeks for each period), then good again. It is a pattern that can be characterised as a cyclical asymmetrical. In this, it may be similar to Seasonal Affective Disorder, a condition which causes depression during the winter months. People can start to feel worse in August-September, with a low point usually around November-December, as spring approaches they start to feel better.

WHAT TESTS CAN BE USED TO ASSESS MY LIVER?

The liver is a complex organ and fulfils many functions so that it is difficult to have a single measure of its efficiency. Liver function tests, (LFT's) are usually performed two to three times over a six month period. Even if your LFT's remain normal, doctors may continue monitoring your LFT's over a longer period. If a person has intermittent or persistently abnormal LFT's further investigation may be warranted.

ALT (alanine aminotransferase) and AST (aspartate transaminase) are intracellular enzymes which are produced by the liver. When they are present in high levels, it may be an indication of liver cell damage. It is only regarded as significant when it is twice the level of the normal range. Liver cells are damaged, not only by virus particles, but also by alcohol and drugs. ALT and AST are not reliable indicators for chronic Hepatitis C, the condition may exist in the presence of a normal ALT/AST result.

The most sensitive method of detecting Hepatitis C, is the PCR (polymerase chain reaction) test, which can detect up to 250-500 genomes/ml. If AST/ALT levels are consistently normal, then, wherever possible, a PCR test should be performed to detect whether the virus is present, despite the normal enzyme levels.

Other tests include: Bilirubin, which is an enzyme produced by the liver and is thought to reflect hepatic protein synthesis in general, it increases in people who are jaundiced. Alpha Fetoprotein, which increases in people who are affected by liver cancer. GGT, which is more influenced by what you drink. Albumin, which is a blood protein that helps regulate fluid balance and can be reduced in a badly damaged liver. Prothrombin Time (PT) and Partial Thromboplastin Time (PTT), which assess the clotting time of the blood.