

HEPATITIS C

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First Identified 1989

3% of world population has Hepatitis C (HCV),
170 Million people have antibodies to hepatitis C
with 130 Million having a Chronic HCV world-wide.

The UK has a low prevalence compared to other parts of the world with a 0.5% prevalence.

There is an estimated 300,000 people infected in the UK.

The Male to Female Ratio is 2:1

Around 50% of Intravenous Drug Users (IVDU) are infected with Hepatitis C making this the biggest group affected.

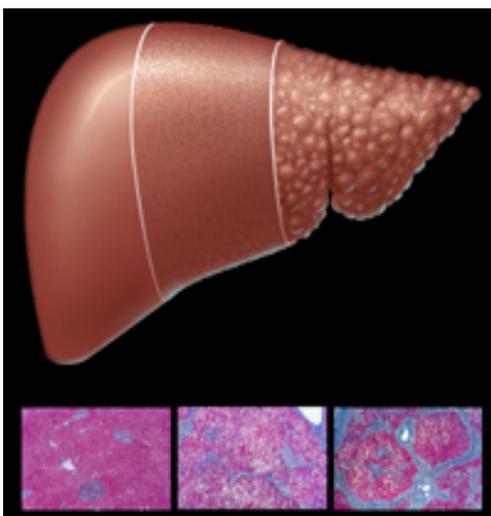
DISEASE OUTCOME

Approximately 20% of people will make a full recovery. They will clear the virus naturally in the acute phase of the disease and will not develop a chronic infection

80% of people will develop a chronic infection (viral activity six months after exposure)

30% of these people will go on to develop cirrhosis (end stage severe liver damage), taking on average a period of 20 to 30 years.

There is a 5% risk of developing a primary liver cancer but this is mainly seen in patients with established cirrhosis.



FACTORS EFFECTING DISEASE PROGRESSION:

Age at infection > 40 years

Male gender

Daily alcohol consumption > 6 units per day.

Co-infection with HBV or HIV

Median time for progression to cirrhosis is 30 years.

Among males over 40 years old who consumed more than 6 units of alcohol per day, the mean time for progression to cirrhosis was 13 years.

In contrast, among HCV-positive women less than 40 years old who consumed no alcohol, the mean time to cirrhosis was 42 years.

ROUTES OF TRANSMISSION

High Risk

IV drug abusers sharing contaminated needles, syringes and injecting equipment (water, spoons, filters etc)

Infected blood transfusions, blood products (E.G Factor VIII in Haemophilia) and organ transplantation prior 1991 when all blood donations and organs were screened for Hepatitis C.

There is still a very small risk of contracting Hepatitis C from a blood transfusion, or organ donation if the donor has recently contracted the virus and antibodies are not yet detectable when screened (a window period of 12-72 weeks).

People should avoid having blood transfusions or organ transplantation when abroad as screening may not be as stringent.

Low risk

Percutaneous injury e.g. sharps injury (3% risk)

Haemodialysis

Health care or dental work abroad where sterilisation is poor.

Vertical; Mother to Neonate (4-7% risk, but 30% in HIV co-infected). Breast milk is not thought to transmit the virus.

Unprotected sexual intercourse (1%)

No greater prevalence seen in men who have sex with men.

Intranasal Cocaine Use by sharing cocaine straws and

Smoking Crack Cocaine by sharing a crack pipes.

Tattoos, piercing, acupuncture.

Contact sports, fights and human bites.

General advice

In around 10% of Chronic Hepatitis C cases no obvious risk factors for the transmission of the disease is identified.

However, there is no risk of HCV transmission from everyday social contact such as holding hands, hugging, kissing, or through sharing a toilet, crockery and kitchen utensils.

Individuals infected with HCV should not be excluded from work, school, play, childcare or other settings.

HCV positive health care workers should only be excluded from exposure prone procedures within the health care setting.

DIAGNOSIS

A positive HCV Antibody test - indicates that a person has been exposed to the virus at some time in the past however the presence of antibodies does not indicate clearance of the virus or immunity.

Hepatitis C has an incubation period before antibodies are detectable in the blood stream. For this reason, a person who has been recently at risk should be re-tested in three months even if their current antibody test is negative. This is referred to as a window period.

Hepatitis C PCR testing looks for the virus in the blood stream and indicates a current active infection.

CHRONIC INFECTION

Symptoms of Chronic infection:

A significant proportion of people with chronic hepatitis C will have no symptoms. The symptoms can be vague and non-specific.

The most common symptoms are:

Periods of fatigue or continuous fatigue where sleep does not seem to solve the problem

Muscle or joint pain

Fever

Pain over the liver area

Mild nausea, (feeling sick) vomiting and other digestive problems, including loss of appetite

Difficulty in concentrating, poor memory, feeling 'woolly headed'

Depression

Skin problems, for example rashes and significant itching

These symptoms often periodic in nature. This may be because the virus goes through stages of becoming more active and then more dormant.

TREATMENT

Current Treatment

PEGylated Interferon which is administered through a weekly sub-cutaneous injection. This is given in combination Ribavirin tablets which are taken orally twice a day with food.

The overall response rate to this treatment is 50%

Genotypes

Genotype 1 (approx 60% of UK population)

Length of treatment = 48 weeks (1 year) with review at 12 weeks to assess early response.

There is a 40% chance of viral eradication (cure).

Genotype 2/3 (approx 40% of UK population)

Length of treatment = 24 weeks (6 months)

There is an 80% chance of viral eradication (cure).

Genotype 4 (rare in UK population)

Length of treatment = 48 weeks (1 year) with review at 12 weeks to assess early response.

There is a 60% chance of viral eradication (cure).

PREVENTION

Health Care Staff should:

Always take care when handling blood samples and sharps and to dispose of sharps correctly.

Report all needle stick or sharps injuries to your manager.

People who have Chronic Hepatitis C should:

Clean up blood spills promptly with undiluted household bleach and to try and clean up blood spillage themselves.

Carefully clean cuts, grazes and wounds and cover with a plaster or dressing.

Not share personal items such as toothbrush, razor, scissors or hair clippers to avoid a possibility of blood to blood contact from bleeding gums or cuts through shaving.

Make sure their General Practitioner (GP) and Dentist are aware of their Hepatitis C status and inform partners and other members of the household.

Not register as an organ donor or donate blood.

Consider barrier methods of contraception, especially when in a new relationship with a partner.

Not share anything that is inserted through the skin including earrings, piercing jewellery, acupuncture needles and, of course, needles for injecting drugs or steroids or ensures sterile needles are used.

Not share any injecting equipment when using intravenous drugs meaning water, spoons, filters as well as the syringes and needles themselves.

Not share anything they could have bled onto, such as a straw or note for snorting drugs or crack cocaine pipes.

HEPATITIS B

CHRONIC HEPATITIS B

Chronic hepatitis B is a major global public health problem with 350 million people infected worldwide.

It is one of the leading cause of deaths globally with up to 1 million deaths attributable to the disease per year.

The burden of disease varies worldwide with high prevalence in Asia and Africa with rates of 10-20%

Lower prevalence is seen in Western Europe, America, Australia and New Zealand with 0.1 – 2% of the population having CHB.

In the UK 325,000 people have chronic Hepatitis B

TRANSMISSION

The hepatitis B virus is present in blood but also in a number of body fluids including semen and vaginal fluid and can be transmitted blood to blood and also through sexual transmission.

The most common routes of transmission in high prevalence areas is vertical (mother to child) and horizontal transmission in early childhood.

Intravenous drug use and sexual transmission are the main routes identified in lower prevalence areas.

Sexual transmission rates in the UK are high in heterosexuals and amongst men who have sex with men.

Acupuncture, tattooing, piercings, infected blood products and household contact e.g. the sharing of toothbrushes, razors, nail scissors also pose a low risk. Sharps injury can also transmit the virus.

The virus is highly infectious and can be transmitted in minute amounts of blood so care should be taken when handling blood or blood stained body fluids.

CHRONIC INFECTION

Chronic Hepatitis B is categorized as persistent detectable Hepatitis B Virus Surface Antigens (HBsAg) for six months after initial infection.

The risk of developing a chronic infection is high for the new born at 90% and 30% for children under the age of five.

Chronic infection is lower for those infected in adulthood at just 5-10%. Full recovery will occur in 95% of healthy adults infected with the hepatitis B virus ensuring lifelong immunity.

1% of patient will have a heightened immune response to hepatitis B and this can lead to rapid liver failure

Never had HBV = *HBsAg Negative*.

Had the virus in the past but have cleared it naturally and now have immunity = *HBsAg Negative + HBV Core Antibody Positive (anti-HBc)*

DISEASE OUTCOME

Patients with Chronic Hepatitis B who have ongoing viral replication and liver inflammation are at risk of developing liver cirrhosis which can lead to liver failure and primary liver carcinoma.

Approximately 15-20% of patients with Chronic Hepatitis B will develop cirrhosis of the liver within 5 years and 15-40% will go on to develop end stage liver disease.

Around 10% of those with cirrhosis will develop a primary liver carcinoma however 10-30% will develop cancer without the presence of Cirrhosis.

TREATMENT

People with Chronic Hepatitis B who have a high level of the virus in their blood stream (HBV DNA level) and abnormal liver function blood tests which show that the liver is inflamed along with signs of scarring in the liver after a liver biopsy should be offered treatment.

The first treatment normally given is a years course of PEGylated Interferon

Daily tablets called nucleoside analogues can also be given to treat Hepatitis B.

AIM OF TREATMENT

Reduce the level of virus in the patients blood stream

Reduce immune response and reduce liver inflammation.

Establish a remission of the infection.

Reduce liver inflammation and scarring

The more active the infection and the more inflamed the liver the more effective the treatment tends to be.

VACCINATION AND PREVENTION

There is a safe, cost effective, well tolerated, effective vaccine available for Hepatitis B which can be utilised to reduce the spread and prevalence of Chronic Hepatitis B.

The vaccine should be actively promoted in at risk groups and can also be used as part of post-exposure prophylaxis care for those at risk, for example health care workers, along with the administration of HBV immune globulin.

The risk of mother to child transmission is significant especially amongst HBeAg positive mothers. However, this can be effectively reduced by vaccination of infants and the administration of HBIg for babies born to mothers who have a high infectivity level.

Ongoing screening of blood products, harm minimisation programmes for intravenous drug users and safe sex advice for all those at risk can also be utilised as part of prevention initiatives.

AT RISK GROUPS WHO SHOULD BE OFFERED VACCINATION

All those at occupational risk of coming in direct contact with blood or blood-stained body fluids

People with Chronic Hepatitis C

Those travelling to areas of high prevalence who are at increased risk of exposure to the virus or who plan to stay there for lengthy periods

Injecting drug users

Individuals who change sexual partners frequently

Close family contacts of a Hepatitis B case or carrier

Haemophiliacs and those receiving regular blood transfusions or blood products and their carers responsible for the administration of those products

Families adopting children from countries with a high prevalence of hepatitis B

Infants born to mothers who have had hepatitis B

HBV Antibody levels should be checked after vaccination to ensure adequate cover.

PREVENTION

Please see advice for those with Hepatitis C

Hepatitis B is also found in body fluids so the risk of sexual transmission is high.

People with Chronic Hepatitis B should use barrier methods of contraception such as condoms especially during casual sexual encounters

However, there is a safe and effective vaccination available against hepatitis B which gives life long immunity.

Sexual partners of people with hepatitis B should be first tested and then vaccinated. Once this has been done and the effectiveness of the vaccine has been confirmed with a follow-up blood test then normal sexual relations can resume between partners

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