Advice you can depend on…

The British Liver Trust is a registered charity that aims to help everyone affected by liver disease through information, support and research.

We make every effort to make sure any advice you receive from our Helpline, website and leaflets is accurate, up-to-date and explained in language that is easy to understand.

Our medical content is provided by leading hepatologists and reviewed by people with personal experience of liver disease so that what we say reflects common patient experience in the UK today.

You can take our word for it.
Welcome from the British Liver Trust

The UK is experiencing a dramatic increase in the incidence of liver disease. A substantial proportion of this relates to viral hepatitis. The growth of viral hepatitis, along with the 'epidemic' of alcohol-related liver disease and the rising tide of obesity present a significant triple whammy to the liver.

The British Liver Trust, the national charity for adults with liver disease, believes that there is a pressing need to recognise and address the consequences of doing nothing about this major public health issue.

Viral hepatitis in all its forms is an insidious disease. It has few definable symptoms but can have devastating physical and psychological effects. For the thousands of people infected with hepatitis and living day-to-day with chronic hepatitis it can be isolating and utterly disruptive. Careers can be halted, loved ones put at risk and serious and life-threatening liver disease can occur.

Stigmatised

At the British Liver Trust we regularly hear stories from people who feel stigmatised and have been left without support, information and even without effective treatment. Diagnosis has often come after many years of ill-health and sometimes too late, with the onset of cirrhosis and even liver cancer curtailing their lives, often unnecessarily.

Endorse

The British Liver Trust is delighted to endorse this supplement which it views as an important contribution to raising the public profile of a little understood and poorly recognised range of diseases. To say that hepatitis and particularly hepatitis B and C present a greater threat than HIV/AIDS in the UK would be an understatement. In an effort to convey the message to the wider public, the Trust is mounting a campaign later this year aimed at those putting themselves at risk of hepatitis B infection when travelling to high risk holiday locations. Its ‘Think B-Fore You Go’ Day on 27th December highlights the need for awareness and precautions including having the hepatitis B vaccination.

The Trust has also recently set up an online support forum for people with hepatitis B. We are regularly contacted by a growing number of people from all over the country enquiring about hepatitis B support groups. This forum will help to overcome the geographical distance between them. If people with hepatitis B are feeling isolated, worried, confused or have unanswered questions about their condition, the Trust is urging them to use this forum to share experiences and support each other.

For those already with hepatitis B (an estimated 180,000 but many more have not been diagnosed) and C (it is thought up to 750,000 are infected) the progress in developing new and more effective treatments is vital. There is still no vaccine against hepatitis C and the availability of the hepatitis B vaccine is restricted in the UK to high-risk groups; implementation of a targeted programme, even amongst those most at risk, is poor.

Problems

The articles in this supplement highlight the problems that living with hepatitis brings and the precautions that can be taken to prevent it. It looks at work that is being done to improve treatment for people with these very complex diseases. Perhaps it can also bring hope to those just diagnosed that efforts are being made to make their lives better and that greater awareness will prevent others having to suffer the same experiences.

ABOUT THE BRITISH LIVER TRUST

The British Liver Trust is a national charity and was set up in 1988 to represent all adults with liver disease. It works closely with patients, hepatologists and gastroenterologists through its support groups and Medical Advisory Committee. Its work on hepatitis is only limited by its resources and sadly it remains a small and frighteningly under-funded organisation with a massive amount of work to do. Please visit the Trust website at www.britishlivertrust.org.uk or call its Medical Helpline on 0870 770 8028 for any information regarding hepatitis or any liver disease.
In just over three years, Bristol-Myers Squibb has introduced several major medicines in many markets around the globe to treat serious disease areas: a therapy to help treat HIV, a treatment for hepatitis B, and a medication for severe mental illness. Our commitment to the research and development of novel compounds for serious diseases continues with a robust pipeline of investigational medicines in development.

Bristol-Myers Squibb is focussed on the world’s most serious diseases. We’ve never been more committed to our mission.

Today and tomorrow.
Hepatitis A: now, where, when and prevention

The hepatitis A virus was a common childhood infection in the early 20th century but is now relatively unusual in the UK. Because the symptoms are fairly general it is possible that more people have had it without even realising it.

BY EMMA BOWLER

Hepatitis A, sometimes known as hep A or HAV, is a liver disease caused by the hepatitis A virus. It is passed from person to person by eating food or drinking water contaminated with the virus.

Fruit, vegetables and uncooked food washed in contaminated water can cause infection, especially in hot countries. Shellfish can also be infected if it comes from sea contaminated with sewage. Food that has been cooked properly is safe, but it can become contaminated if someone with the virus has handled it.

Hepatitis A is more common in countries where water supplies and sewage disposal is of a poor standard and where hygiene standards and sanitation are low. High-risk areas include Southern and Eastern Europe, Africa and parts of the Middle and Far East.

There are no symptoms for 2–6 weeks after the virus enters the body. For some the symptoms are so mild they may not even realise they are infected yet they will be able to pass on the virus to others. Others may experience symptoms such as tiredness, aches and pains, fever, nausæa, stomach ache and loss of appetite. These symptoms last for a week or more and then jaundice may develop. This makes the whites of the eyes and in more serious cases, the skin, turn yellow.

Jaundice is caused by the build up of a yellow substance called bilirubin. This is a waste product that the liver normally gets rid of but if the liver is not working properly bilirubin builds up in the body.

As with most viral infections there is no specific treatment. Most people feel better within a few weeks but may feel tired for several months. Hepatitis A will not reoccur once the person has had it and unlike the other hepatitis viruses there is no long-term liver damage.

However the illness tends to be more serious in older people and on rare occasions can cause fatal liver damage. For those who develop severe hepatitis A, a liver transplant is the only option to save their life.

Avoid having ice cubes in drinks, drinking tap water or eating ice-cream in countries where hepatitis A is common.

Fortunately there are steps that can be taken to prevent being infected with hepatitis A. The British Liver Trust advises:

- Get vaccinated – especially if travelling to a high-risk area. Vaccination is also recommended for injecting drug users, gay men (as certain sexual behaviours may put individuals at risk), those who are at risk through their jobs e.g sewage workers, those who have long-term liver disease already as subsequent infection with hepatitis A can cause a more serious illness.

You should try to avoid having ice cubes in drinks, drinking tap water or eating ice-cream in countries where hepatitis A is common.

Shellfish
Don’t eat poorly cooked shellfish, uncooked vegetables, salads, unpeeled fruit or unpasteurised milk in high-risk countries. Consultant Hepatologist at St Mary’s Hospital, London, and a member of the British Liver Trust’s Medical Advisory Committee, Dr Mark Thurne explains, “The hepatitis A virus [HAV] used to be quite common in the UK where people were infected during early childhood. This meant that they built up antibodies against the virus making them immune for the rest of their life. As the prevalence of HAV has declined so have people’s antibodies, therefore it is essential to get the hepatitis A vaccine before travelling abroad to high-risk areas. Unfortunately, contracting hepatitis A in adulthood is much worse than in childhood and can result in liver failure and even a liver transplantation.”

For more information on hepatitis A, call the British Liver Trust Helpline on 0870 770 8028 or visit the website at www.britishlivertrust.org.uk

HEPATITIS AT A GLANCE

- Hepatitis means inflammation of the liver. The liver has more than 500 functions vital for life including fighting infection, making bile to breakdown food in the gut, destroying and dealing with poisons and drugs, filtering and cleaning the blood.

- Inflammation of the liver can be caused by excessive alcohol intake or the side effects of some drugs, both illegal and prescribed. However, the most common cause of hepatitis is viral infection.

- There are several different types of hepatitis virus, the main ones being hepatitis A, B, C, D and E.

- All of the viruses can cause an acute disease with symptoms such as jaundice, extreme fatigue, nausea and abdominal pain.

- The hepatitis viruses differ in the way they are passed from person to person, the way they cause liver damage and the effects they can have on the person’s health.

- Hepatitis A, B and C are the most common forms found in the UK.

- Most people recover from hepatitis A with no lasting liver damage but hepatitis B and C can cause long term liver disease, leading to cirrhosis and even liver cancer. In many cases there are no early warning symptoms until liver damage is far advanced.

Bristol-Myers Squibb: committed to the research and development of medicine for hepatitis

Bristol Myers Squibb’s mission is to extend and enhance human life by providing the highest quality pharmaceutical and related healthcare products.

The company is focused on the discovery and development of innovative treatments for serious unmet medical needs such as cancer, cardiovascular and metabolic diseases, hepatitis, HIV/AIDS, psychiatric disorders and rheumatoid arthritis.

Chronic hepatitis B is a potentially life-threatening disease and a global public health issue. The hepatitis B virus is thought to be 100 times more infectious than HIV and it is estimated that more than 350 million people worldwide have chronic, lifelong, hepatitis B infection. In Europe, an estimated 1 million people are infected with hepatitis B every year.

Measuring the amount of the hepatitis B virus in a person’s bloodstream — also known as the viral load — can help to predict a person’s progression to serious liver disease and liver cancer. Recent studies suggest that among hepatitis B patients who have the highest viral load levels, there is a significantly increased future risk of eventually developing cirrhosis and liver cancer.

Earlier this year, the company received approval to market a new medicine for treating hepatitis B. Bataclade, also known as entecavir, is an oral antiviral therapy specifically designed to block the replication of hepatitis B virus. The medicine, which was discovered and developed in Bristol-Myers Squibb research centres, was approved by the European Commission in June 2006 and was launched in the UK soon after.

Bristol-Myers Squibb
Advice you can depend on

The British Liver Trust has been producing patient information leaflets covering a variety of liver-related disease for many years. All publications are either written by or go through a peer review process by leading hepatologists.

Clarification of any medical issue, when it is required, is obtained from the Trust’s Medical Advisory Council. All leaflets are also reviewed by members of the public who may have present or past experience of the subject matter.

Accurate

This is to ensure that information is accurate and up to date in the first instance and, in the second, to make sure the information is conveyed in accessible language and does not make assumptions or omissions about treatment. This ‘lay review’ process ensures that information given accords with patient experience, even taking into account the variable nature of hospital settings.

The British Liver Trust had found that it is information about hepatitis that is most frequently sought from the public. People diagnosed with hepatitis require accurate and wide-ranging advice about the disease to help them deal not only with the physical effects but with the fear, confusion, distress and stigma that they, and those closest to them, may experience.

Advice about hepatitis from the Trust is accessed not only in English but across a range of foreign languages. Almost 10,000 people visit the Trust’s website looking for hepatitis advice each month; a significant proportion of downloads from these pages is information translated into Chinese, Hindi, Urdu and Bengali. The British Liver Trust is currently working on expanding this range.

Yet it is not only the public who require information about hepatitis. Knowledge of the disease amongst the wider medical profession in the UK is thought to be very poor. To address this, the British Liver Trust is publishing two ‘professional’ guides to hepatitis B and hepatitis C this month. Written by leading clinical experts, they have been formulated for use in non-specialist medical environments. They are aimed at not only by GPs and nurses but at drug workers, health and safety advisors or others in similar occupations who are likely to be required to assist in this area.

The publications provide a short, accessible guide to diagnosis, treatment and prevention in order improve awareness and management of these complex blood-borne viruses.

For more information call the British Liver Trust on 0870 770 8028 or visit www.britishlivertrust.org.uk

iQur: the liver experts – diagnostics, therapeutics, knowledge

iQur Ltd is a specialty pharmaceutical company at the forefront of international breakthroughs in the detection, treatment and monitoring of viral hepatitis and other liver diseases.

Founded in 2003 by liver disease specialist Professor William Rosenberg, iQur is based in the University of Southampton with operations across the UK and Europe.

Putting Patients First

iQur offers a comprehensive sample testing service for diagnostic and research use for hepatitis B, hepatitis C and HIV. The company’s proprietary test, iQur FASTTEST, delivers accurate, reliable results to clinicians, typically within 24–48 hours, enabling them to give the best possible service to their patients.

Director of Operations, Di Sheridan explains, “Customer service is paramount and our Diagnostic division pays close attention to the individual needs of our clients. Our tests are available singly or in combination, and we have introduced the use of blood spots or saliva samples for easier collection. Results are available in a variety of formats, including via fax, e-mail or letter.”

iQur has recently launched a new non-invasive method of assessing liver fibrosis. Using serum markers, the Enhanced Liver Fibrosis (ELF) Test provides valuable information to clinicians in the diagnosis, prognosis and treatment decisions for all diseases of the liver. “This simple blood test can be used repeatedly, with minimal patient discomfort, to monitor disease progression and response to therapy,” says Sheridan.

Using serum markers, the Enhanced Liver Fibrosis (ELF) Test provides valuable information to clinicians in the diagnosis, prognosis and treatment decisions for all diseases of the liver.

“iQur uses a system that alerts the immune system to fragments of the virus in an “immunogenic” context,” reveals Rosenberg, “thereby training it to eradicate infection. This effectively provides the immune system with a strong signal that allows it to learn how to deal with the virus. The system is currently in pre-clinical development, but shows significant promise.”

The company also strives to improve drug treatment regimens currently used for liver disease. Existing drugs used for treatment of hepatitis C have a severe limitation caused by the side effect of anaemia and, although increased doses of drug are more effective at killing the virus, these amounts cannot be given to patients because of the anaemia they induce. iQur is developing a range of new chemical entities (NCE’s) which have been shown to have significant anti-viral activity without this side effect.

Further information on business development, partnering opportunities and iQur’s range of services can be found at www.iqur.com or by e-mailing info@iqur.com
I takes one to six months after becoming infected with the hepatitis B virus for any symptoms to emerge. Many people who are infected never have any symptoms; others develop a mild illness but don’t feel unwell enough to see a doctor, but they can still pass on the virus.

Acute hepatitis B
Those with acute hepatitis B usually get better within a few weeks or at most a few months. Of these a minority develop severe acute hepatitis B where only a liver transplant may save their life.

A number of people with chronic hepatitis B may carry the virus without experiencing any symptoms however they are still carriers.

General symptoms include tiredness, aches and pains, loss of appetite; individuals may also be sick, have stomach ache, dark urine, pale bowel motions and jaundice. Approximately 30 to 50 per cent of those infected will develop jaundice where the whites of the eyes go yellow and in serious cases the skin turns yellow too. This occurs because of a build up of a yellow substance called bilirubin. The liver normally gets rid of bilirubin but when it is not working properly bilirubin builds up in the body.

Hepatitis B becomes chronic when the infection lasts more than six months. A number of people with chronic hepatitis B may carry the virus without experiencing any symptoms however they are still carriers. Of these some will develop some degree of liver disease. Approximately 25 per cent of carriers develop serious liver disease such as chronic hepatitis, cirrhosis and, after many years, may develop liver cancer.

Cirrhosis and liver cancer
If the liver is damaged for a short time it is able to regenerate to its original size. But when the liver is inflamed over a long period of time it cannot regrow properly, smooth liver tissue is replaced by much harder tissue and scar tissue, which is known as cirrhosis.

An estimated 15 to 20 per cent of people with chronic hepatitis B acquired in adulthood develop cirrhosis. For those that develop life threatening complications as a result of cirrhosis a liver transplant is an option. This is successful in 60 to 80 per cent of people who are very ill, though the hepatitis B virus does infect the new liver and can lead to liver disease again.

Advanced cirrhosis may also lead to liver cancer. A liver transplant can also be carried out if someone develops primary liver cancer so long as the cancer has not progressed too far. But generally liver cancer is almost always fatal.

Testing
Hepatitis B can be detected by a blood test which looks for antibodies to the hepatitis B virus as well as proteins produced by the virus.

Other blood tests known as Liver Function tests (LFTs) may be carried out to measure substances in the bloodstream to indicate whether or not the liver is damaged. But the only way to properly assess the degree of liver damage is by taking a liver biopsy.

Hepatitis B: James’s story
I didn’t actually have any symptoms; I just happened to go to an STD clinic where they had introduced screening for hepatitis B. Coincidently I experienced some mild stomach discomfort, I went home and my mum sent me to bed with a whiskey, during the night the pain got worse. As a result of that reaction I thought I should ring for the results of the tests I’d had and they told me I had hepatitis B.

After seeing the doctor I was later given a combination of Adefovir and Lamivudine which had a really positive effect on my liver, I’d never felt so well. The doctors treating me had never seen anything like it before and realised my liver was regenerating; it was like winter turning into spring.

Living with something like this is like living under a darkened cloud, you are never sure whether that cold or that headache is just something you have or due to your liver. It’s a psychological strain more than anything but at least now there is hope with the drugs that are available. At least now I can look forward to the future.
Idenix/Novartis collaboration

Novartis and Idenix are working in collaboration under development and commercialization arrangements established in May 2003, on various treatments for hepatitis C and hepatitis B. Under the agreements, Novartis and Idenix will co-promote in the United States, France, Germany, Italy, Spain and the United Kingdom. Novartis has the exclusive right to commercialize the developments in the rest of the world.

About Novartis
Novartis AG (NYSE: NVS) is a world leader in offering medicines to protect health, treat disease and improve well-being. Our goal is to discover, develop and successfully market innovative products to treat patients, ease suffering and enhance the quality of life. Novartis is the only company with leadership positions in both patented and generic pharmaceuticals. We are strengthening our medicine-based portfolio, which is focused on strategic growth platforms in innovation-driven pharmaceuticals, high-quality and low-cost generics, human vaccines and leading self-medication OTC brands. In 2005, the Group’s businesses achieved net sales of USD 32.2 billion and net income of USD 6.1 billion. Approximately USD 4.8 billion was invested in R&D. Headquartered in Basel, Switzerland, Novartis Group companies employ approximately 97,000 people and operate in over 140 countries around the world.

About Idenix
Idenix Pharmaceuticals, Inc., headquartered in Cambridge, MA, is a biopharmaceutical company engaged in the discovery, development and commercialization of drugs for the treatment of human viral and other infectious diseases. Idenix’s current focus is on the treatment of infections caused by hepatitis B virus, hepatitis C virus and human immunodeficiency virus (HIV).

Hepatitis B: The vital statistics

The World Health Organisation estimates that of the 2 billion people who have been infected with the hepatitis B virus, more than 350 million people are chronic, lifelong, carriers of the virus. Of these over half a million to one million will die every year as a result of chronic hepatitis B, cirrhosis and liver cancer.

The Department of Health estimates that there are around 180,000 people in the UK who have chronic hepatitis B. There are signs that hepatitis B infection is on the increase with an estimated 1,300 cases of symptomatic acute hepatitis B each year and 7,700 new cases of chronic hepatitis B. Of these new chronic cases approximately 300 people were infected within the UK while the rest are as a result of immigration from high-risk areas.

The World Health Organisation says that hepatitis B is considered second only to tobacco as a human carcinogen causing 50 per cent of primary liver cancers, the sixth most common form of cancer. Following diagnosis of liver cancer only 3-6 per cent of patients will survive beyond 5 years. Of 600 to 700 liver transplants conducted in the UK each year about 5.5 per cent are for people with hepatitis B virus associated liver damage.

The hepatitis B virus is one hundred times more infectious than HIV and is thought to be able survive in dried blood in excess of a week. It is estimated that in one year 10–30 million people will become infected with the hepatitis B virus, making it the most common serious liver infection in the world.

Since 1982 there has been an effective vaccine available to prevent hepatitis B infection and although the vaccine will not cure chronic hepatitis, it is 95 per cent effective in preventing chronic infections from developing.

According to the Health Protection Agency hepatitis B notifications, in England and Wales, increased from 887 in 1992 to 1,151 in 2003 – a 135 per cent increase.

Figures from the Office for National Statistics show that visits abroad by UK residents rose by 4 per cent during the 12 months ending September 2005, from 63.3 million to 65.9 million. The International Passenger Survey, says visits abroad by UK residents to areas of high risk for hepatitis B rose by 26 per cent during the 12 months ending June 2005.

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NEWS IN BRIEF

Too many healthcare workers exposed to blood-borne viruses “Eye of the Needle”, a new report from the Health Protection Agency shows that healthcare workers are still being exposed to bloodborne virus infections, even though such exposures are largely preventable. Eleven healthcare workers were infected with hepatitis C via needle stick injuries in the last eight years; two of these incidents were reported in the last 12 months. The report shows that even though a lot has been done to protect healthcare workers, the number of reported occupational exposures has increased 49 per cent in three years, from 206 in 2002 to 306 in 2005. This rise could be due to increased awareness of the risks of needlestick injuries or a genuine increase in the number of injuries, either way the report highlights the need for NHS Trusts to provide local protocols and information on the risk of bloodborne viruses in the work place and to ensure that healthcare workers are adequately trained on how to prevent injuries.

www.hpa.org.uk/infections/topics_az/bbv/s_report.htm

Thousands more people with hepatitis C to benefit from latest NICE guidance on drug treatments
The National Institute for Health and Clinical Excellence (NICE) has recently issued guidance recommending the use of two drugs, peginterferon alfa and ribavirin, for the treatment of people with mild chronic hepatitis C within the NHS.

Symptoms
Recent estimates suggest that approximately 200,000 to 500,000 people are infected with hepatitis C in England and Wales although only around 47,000 people have been diagnosed and only around 7000 treated. Current practice is to treat only those patients with moderate or severe symptoms.

Combination
Today’s guidance however states that people with mild chronic hepatitis should also be offered combination therapy. Andrew Dillon, NICE Chief Executive and Executive Lead said, “We are recommending these drugs as the evidence suggests that treating patients with hepatitis C in its earlier stages when symptoms are milder can be effective at suppressing the virus and delaying disease progression. Treatment in these patients is also cost effective – for example early treatment might prevent the need for a costly and complicated liver transplant at a later stage.”
Oral antiviral treatment of hepatitis B

There are a growing number of treatment options for those infected with the hepatitis B virus including oral antiviral treatments. But problems with side effects and resistance mean it’s an ever-changing battlefield against the virus.

BY EMMA BOWLER

The majority of people with acute hepatitis B do not need treatment as they do not develop any long-term liver damage. However, for those who develop chronic hepatitis B, which is when the infection persists for more than six months, treatment may be beneficial. The aim of treating those with chronic hepatitis B is to prevent infection progressing towards the more serious symptoms of cirrhosis, liver cancer and liver failure.

About 15 per cent of patients are unable to tolerate interferon due to its side effects which may include loss of appetite, nausea, tiredness, depression and cardiovascular problems.

Until recently regular interferon injections were the mainstay of chronic hepatitis B management. Interferon is a genetically engineered version of a protein naturally produced by the body’s immune system when responding to viral infection.

Interferon alpha treatment is given as three injections per week for four to six months which can be inconvenient for patients. The treatment stops viral replication in only around 40 per cent of patients, nevertheless liver biopsies usually show a sustained improvement and patients are less likely to develop serious liver disease and possibly liver cancer.

However, about 15 per cent of patients are unable to tolerate interferon due to its side effects which may include loss of appetite, nausea, tiredness, depression and cardiovascular problems. A newer form of interferon known as pegylated interferon which requires only once-weekly injection is now available.

Fortunately, alternative oral antiviral medication is also now available. One such option is Lamivudine, this drug is taken orally, one tablet per day, for about a year. Its aim is to reduce the amount of virus in the body by inhibiting viral production. Clinical trials have shown Lamivudine to be effective and tolerated for therapy lasting three years. Again this doesn’t work for everyone and there is a problem with resistance. Around 26 per cent of patients develop resistance to Lamivudine each year with up to 80 per cent of patients developing resistance after five years of treatment.

This problem highlights the need for alternative drug therapies or drug combinations to be developed. Adefovir is a new therapy which became available in the UK in April 2003. Clinical trials look promising indicating Adefovir can improve the condition of liver disease and reduces viral load. The benefits of the drug seem to be sustained during long-term treatment and resistance to Adefovir has been shown to be relatively rare. Several clinical trials have also shown Adefovir is effective against strains of hepatitis B virus that are resistant to Lamivudine.

With an increasing array of effective medicines to combat hepatitis B infection in development it seems likely that combination therapy will become the treatment of choice for chronic hepatitis B patients in attempt to minimise the risk of drug resistance and ensure long-lasting effectiveness. However, the race to find the ideal combination and duration of treatment is currently unfinished, although the contenders seem like they may be on the right track.

UK status of hepatitis B

While the overall prevalence of hepatitis B in the UK is relatively low, there are growing concerns that the public health risk from the virus is being virtually ignored in spite of its increasing clinical and economic impact.

BY EMMA BOWLER

The British Liver Trust estimates that 1 in 1,000 people in the UK have the hepatitis B virus. In some inner-city areas, there is a high number of people from parts of the world where the virus is common, as many as 1 in 50 pregnant women may be infected.

Steps have been taken to reduce the spread of the virus; all blood donations in the UK are screened for hepatitis B and since April 2000, all pregnant newborns and/or adolescents. But in the UK vaccination is only offered to healthcare workers, babies of infected mothers and selected high-risk groups.

The Government’s argument is that the cost doesn’t merit the benefit based on the frequency of infection in this country. But this is now being turned on its head due to the number of immigrants – legal and otherwise – coming in from, and the number of travellers and business people going out to, high-risk countries. The argument no longer makes sense, what does make sense now is to have a universal vaccination programme starting from birth to give some protection from acquisition in later life.”

The Foundation for Liver Research report “Out of the Shadows” estimates that acute and chronic hepatitis B could cost the NHS between £26 million and £37.5 million. The lower figure is based on an estimate of diagnosed patients, and includes hospital costs only; the higher figure is based on all patients being diagnosed and treated which is currently not the case.

Maybe now is the time to reevaluate the argument against spending money on hepatitis B prevention, otherwise it could prove to be a costly mistake to ignore the old adage that “prevention is better than a cure.”
Gilead Sciences is a biopharmaceutical company that discovers, develops and commercialises innovative therapeutic treatments in areas of unmet medical need. The company's mission is to advance the care of patients suffering from life-threatening diseases worldwide.

Headquartered in Foster City, California, Gilead has operations in North America, Europe and Australia. Employing over 2,300 people worldwide the company maintains research, development and manufacturing facilities in the United States and Europe.

Gilead uses the most advanced scientific tools available to develop therapeutics for the treatment of infectious diseases. Based upon recent advances in molecular and cellular biology, researchers understand viral replication better than ever before. Gilead applies this knowledge to study the sites of viral replication and to explore how a virus might mutate to become resistant to treatments. This allows for a better understanding of the profile of antiviral medications - both alone and in combination with other antivirals - and provides physicians with insight into which therapeutics or combinations may produce optimal benefits.

Throughout the process of designing novel antiviral therapeutics, Gilead biologists and chemists work together to examine key viral enzymes that are required for the replication of pathogenic viruses in host cells. With their detailed understanding of the structure and function of these viral enzymes, or targets, Gilead researchers aim to design and synthesize new antiviral inhibitors with more favourable characteristics, such as enhanced potency, an improved resistance profile, prolonged duration of activity and better selectivity.

The Impact of Viral Hepatitis

Viral hepatitis remains an area of large unmet medical need globally. Despite the success of infant vaccination programmes, approximately 80,000 people in the United States and one million people in Europe are infected with hepatitis B each year.

In addition, an estimated 170 million people worldwide have chronic hepatitis C, and the United States Centers for Disease Control and Prevention project that this number will triple over the next two decades if an effective vaccine is not developed.

More than 20 per cent of people with chronic hepatitis B or C will develop cirrhosis, liver cancer or liver failure. Gilead is engaging in research for novel compounds for the treatment of hepatitis B and C. In late 2004, Gilead signed agreements with Achillion Pharmaceuticals and Genelabs Technologies, Inc. that grant Gilead worldwide rights for the research, development and commercialisation of certain small molecule inhibitors of hepatitis C virus replication. These programmes are highly complementary to Gilead’s own in-house research programmes in hepatitis C.

Gilead is applying biopharmaceutical science to create innovative medicines for the treatment of HIV, hepatitis, influenza and serious fungal infections.

At Gilead, we are aiming to improve current treatment standards. Our aim is to develop new drugs with greater potencies, improved resistance profiles, better safety indices and more convenient dosing regimens. We are striving to significantly advance patient care and improve human lives.
Know your Bs and Cs

Hepatitis put simply means inflammation of the liver. Hepatitis B and C both affect the liver in this way; they are systematic viruses, both blood borne; unchecked, the disease leads to liver scarring which can cause cirrhosis, liver cancer and even liver failure.

There are differences in the mechanics and treatment of hepatitis B and C. These diseases, including transmission, vaccines and symptoms.

The hepatitis B virus (HBV) is more infectious than the hepatitis C virus (HCV). Not only is HBV spread by blood to blood contact, it is also found in the body fluids of infected people: sweat, tears, breast milk and semen. HBV is up to 100 times more infectious than HIV in needle-stick injuries.

Hepatitis C differs from hepatitis B in that it is an RNA virus. This means that it is able to mutate and change, making it very difficult to create a vaccine. As a result, while there is a vaccine for hepatitis B, there is still no vaccine for hepatitis C. Much is still being learnt about these diseases.

One of the major differences between the two viruses is that by far the majority of adults who contract hepatitis B manage to recover from it themselves without any medication before it becomes a chronic liver-threatening condition. This is not true of hepatitis C where about 80 percent of infected people will develop the chronic condition. It is also not true of infants who contract hepatitis B at birth from their infected mothers — they will develop chronic HBV.

Chronic hepatitis B is a devastating disease that can easily be prevented through vaccination but, unlike HCV, it cannot be cured.

Like hepatitis B, hepatitis C can survive for a week or more outside the body. Symptoms in both can be non-specific, or take several months to appear.

Get tested
Most importantly, both can be treated effectively, and in many cases of hepatitis C, even cured. Being diagnosed sooner rather than later makes all the difference.

Weighing the hepatitis C statistics

UK statistics for hepatitis C do not make for comfortable viewing. That said, it is crucial we absorb them and act on them. In doing so we will have to confront how dire the situation really is and take positive action to change it around.

Taking some lessons from the French, who have a similar infection rate to us, would be a smart move as they have been leading the rest of Europe in tackling hepatitis C.

Infection rates
The Department of Health estimated that about 250,000 in England people have been infected with hepatitis C. The Hepatitis C Trust believes this figure stands at 400,000 to 500,000, close to one in a hundred of the population and similar to the rate estimated by the Scottish Executive for Scotland and the rate in France and other medium prevalence European countries (some Southern European countries and the US have considerably higher rates).

Detection rates
Less than 70,000 have ever been diagnosed in the UK, many of whom will already have died from their hepatitis C.

This means that of those now infected, only between 1 in 5 and 1 in 10 knows it. And of course it's the people who don't know it who are at most risk of getting cirrhosis or liver cancer. In France, after a really high profile awareness campaign, over half of all those infected have been diagnosed.

Treatment rates
Once diagnosed, people can be offered treatment that can stop and often reverse the liver damage in 50 percent of those who take it. So how is the UK doing here? The answer is not well. In a report released by The Hepatitis C Trust to coincide with the 2005 World Hepatitis Awareness Day, it states that in 2004 only 2,600 received treatment in the UK, compare with 12,700 in France. In other words 'In France, six to 12 times as many people diagnosed with hepatitis C are likely to receive treatment than those diagnosed in the UK.'

French comparisons
The French Government's Hepatitis C Action Plan is working. Their detection rate has more than doubled in the last ten years. The UK’s are improving compared to previous years — 2004 and 2005 saw a significant increase in the number of new cases identified, though even at the current rate it will take more than 50 years to diagnose all those currently infected, let alone those infected in the future. Commenting, Charles Gore, CEO of The Hepatitis C Trust, said, “The action taken in France has been extremely effective. We need to follow their lead in taking a clearly planned, properly financed and well-executed approach to this disease.”

Awareness is key
In France patient awareness is much higher than in Britain, 56 percent of those know they are carrying the disease; more than one in two. This is up to four times higher than in the UK. If the UK can learn from France not only will our statistics improve but like France we will begin to witness a reduction in deaths from liver disease.

► France has a similar infection rate to the UK, but a far better record for treatment of hepatitis C.
Support from The Hepatitis C Trust

The Hepatitis C Trust is dedicated to offering many types of support to those people living with hepatitis C, and also to those who are partners, friends or family of people with HCV. They provide a friendly and informal Helpline service, giving information and emotional support. The staffs’ knowledge is extensive – all members of the helpline team have, or have had hepatitis C.

The Hepatitis C Trust Helpline is 0870 200 1 200, calls are confidential and are charged at the national rate. It is open Monday to Friday from 12 until 6pm (and till 7pm on Thursdays). We are a member of the Telephone Helplines Association.

Support Groups These groups are a great way of meeting others living with the virus and can be a good way of hearing other people’s stories and strategies for how they cope with symptoms. Contact The Trust to find out about support groups they run in London and for details of groups around the country.

Website The Hepatitis C Trust has a very large information website (visit www.hepctrust.org.uk) which provides an invaluable resource for anyone living with hepatitis C. It is continually updated and covers a wide range of information and issues explained in an easy to understand and sensitive way. There are sections on the hepatitis C virus, treatment, support, benefits, travel, latest news, insurance, personal stories, a discussion forum and much, much more. They hold live question and answer sessions with experts on the discussion forum on a regular basis – including topics such as: Treatment, Insurance Issues, Traditional Chinese Medicine, Liver Transplants.

K1 helps to K0 spread of hepatitis The K1 syringe is saving lives and preventing the spread of diseases Hepatitis, HIV and Aids. The auto-disable (AD) syringes’ unique design was invented by Marc Koska OBE to prevent needless loss of life. A common transmission of the blood borne Hepatitis virus (and HIV/Aids), especially in developing healthcare systems, is via the use of syringes that are only supposed to be used once being reused on several different individuals. The K1 syringe eliminates this possibility as it is designed to be used only the once. The syringe accomplishes this by locking and self-destructing if refilling it is attempted.

The World Health Organisation (WHO) has approved the K1, which since its manufacturing and distribution all over the world has helped save in excess of a million lives.

For more information go to www.starsyringe.com.
The 'silent killer' is in the UK

Hepatitis C has no vaccine, so education about prevention and the treatment options available are of paramount priority, especially as hepatitis C can actually be cured in some people.

BY KELLY CRUMMIE

Get tested was the mantra of this year’s WHAD – World Hepatitis Awareness Day, held on October the 1st. This is the date assigned to raise the awareness of hepatitis C (and hepatitis B), and the devastating impact that these viruses have globally, by various hepatitis patient associations over the world.

On their agenda, aside from attempting to raise awareness, they are demanding action from government bodies and organisations with the powers to restrain and exert some control over the spread of prolific diseases; not only by educating individuals, societies and institutions to take preventative measures but also in building healthcare infrastructure that is better equipped and financed to provide quicker, more effective treatment to those already infected.

It is estimated that up to 600 million people are infected by the hepatitis virus worldwide. Approximately 180 million of those have hepatitis C, viral hepatitis is, in some parts of the globe, of epidemic proportions.

Complicity can be an easy veil to hide behind in terms of personal health; such huge figures surely indicate this is a problem elsewhere around the world, not here, not with us. Wrong.

According to The Hepatitis C Trust, the UK is currently losing the battle against hepatitis C. This is due in large part to complacency: an easy veil to hide behind in terms of personal health; such huge figures surely indicate this is a problem elsewhere around the world, not here, not with us. Wrong.

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In the following table is a selection of some of the questions asked by the ELPA survey, whether the UK’s response was positive or negative and how it compared with the other European countries surveyed:

**ELPA survey questions asked**

<table>
<thead>
<tr>
<th>Question</th>
<th>UK’s response (negative/positive)</th>
<th>Comparison/comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is there a national plan to fight hepatitis?</td>
<td>Positive</td>
<td>The UK was one of only four of the fifteen countries questioned to answer positively to this. Although, there is a big question mark over how effective the Action Plan for Hepatitis C actually is.</td>
</tr>
<tr>
<td>Are screening campaigns organised by the Government? Are screening campaigns held annually?</td>
<td>Negative to both</td>
<td>Only France and the Netherlands had screening campaigns organised by their Governments and only Austria has an annual screening campaign which is privately funded. Such programmes are needed to gain a true picture of the extent of the problem of Hepatitis C; running high profile annual media awareness campaigns aimed at anyone of risk would be likely to have a profound effect on detection and treatment rates.</td>
</tr>
<tr>
<td>Is there easy access to screening? Is testing free? Is testing anonymous? Can a patient be screened by his GP? Can the patient be screened by his specialist?</td>
<td>Positive to all</td>
<td>The UK was one of only three out of fifteen to answer positively for all of the questions; along side were France and the Netherlands. In the UK it is usually possible to get screening with some GP’s, Sexual Health clinics of GUM department, Drug Dependency Units and Community Drug Teams, One Stop Health Shops and if you are a pregnant woman it is possible to be tested at an Antenatal Clinic.</td>
</tr>
</tbody>
</table>

UK diagnosis figures over the years have remained static – this is not because the disease is under control, it is because patient awareness is so low, and people are not coming forward to be tested. Awareness has to be raised not just in the general public, but also amongst medical practitioners, so that people who may have been at risk are confidently identified and offered testing by their GPs. It is believed only one in ten of those infected with hepatitis C actually has any knowledge they are carrying the disease. Worryingly, this figure is expected to increase, which will be followed by a rise in cancer levels and cirrhosis of the liver, putting a tremendous strain on the already stretched National Health Service.

If warnings to raise higher awareness of hepatitis C are not heeded, individuals who remain unaware that they are infected will potentially and unknowingly infect others. Furthermore, these people will remain untreated and undiagnosed for a disease that is treatable, however left untreated may lead to the slow disintegration of the health of their liver.

Markos Kyripanou, European Union (EU) Commissioner for Health and Consumer Protection, at the World Hepatitis Awareness Day 2006 said, “The vast majority of infected people do not know that they are infected with the hepatitis virus. Stigma and fear can suffocate awareness. These barriers prevent people from getting tested, getting treatment and clearing themselves of this disease.” Only by talking openly about the hepatitis C virus will the misconceptions about the ways hepatitis C is transmitted and the infection contracted, stigmatisations be combated.

To the UK’s credit we are one of only four European countries (the others being France, the Netherlands and Sweden) out of fifteen to have a national plan to fight hepatitis, after a recommendation was made by WHO (the World Health Organisation) in 1999. In a 2006 the European Liver Patients Association (ELPA) commissioned a survey of its member organisations, in the UK these members are: The British Liver Trust and The Hepatitis C Trust.

(To see the full ELPA report on ‘Health Care Access and Public Policy for the Prevention and Care of Viral Hepatitis in Europe’ go to the World Hepatitis Awareness Day website)

Survey

Another survey of Primary Care Trusts and NHS Hospital Trusts, carried out by The Hepatitis C Trust on behalf of the All-Party Parliamentary Hepatology Group (APPHG) (PCTs) they concluded, “The Department of Health’s Hepatitis C Action Plan for England is not working because it is not being implemented.” The APPHG Executive further predicted that, “Unless vastly more vigorous efforts are made now at a local level by PCTs, encouraged by targets and a timetable set out nationally by the Department of Health, we predict that hepatitis C will, in the future become a crushing burden to our health service and that we will look back and know that we could have prevented that happening.”

Charles Gore, Chief Executive of The Hepatitis C Trust commented, “The harsh reality is that hepatitis C infection is a serious public health problem that the UK is not equipped to address.”

Alison Rogers of the British Liver Trust adds: “While there has been some government effort put into raising awareness of hepatitis C, it has been a rather toe in the water approach, compared to the millions of pounds spent on other health issues. Britain is still way below other European countries in diagnosis and treatment.”

1 The UK vs. Europe. Losing the fight against hepatitis C. The Hepatitis C Trust. October 2005

2 Hepatitis C. Fact Sheet. The Hepatitis C Trust. 1 February 2006

3 Hepatitis C. Fact Sheet. The Hepatitis C Trust. 1 February 2006


FOR FURTHER INFO ON HEPATITIS C GO TO:

- www.britishlivertrust.org.uk
- www.hepctrust.org.uk
- www.who.int
- www.worldhepatitisawarenessday.org

Source: ELPA report on ‘Health Care Access and Public Policy for the Prevention and Care of Viral Hepatitis in Europe’ go to the www.worldhepatitisawarenessday.com
Getting the elusive disease

One of the reasons why hepatitis C remains undiagnosed is because the symptoms can be non-specific and easy to put down to something else. For example, depression, fatigue, skin problems, insomnia, pain, joint problems and digestive disorders are all symptoms of the virus but could all have other causes.

BY KELLY CRUMMIE

Many people with the virus experience no symptoms, some have a few and some have many. It is a very individual disease with no definite set pattern of symptoms or disease progression.

Testing procedures

If you decide to go for a test, it can be relatively easy to arrange one. Although the number of places available to do testing will vary regionally, nationwide there are GUM and sexual health clinics that provide hepatitis C testing. GPs will usually supply this service too, but this varies from practice to practice.

Diagnosis for hepatitis C is obtained by testing your blood for the presence of antibodies first. A positive result means that the body's immune system has produced antibodies in response to exposure to the virus but does not necessarily mean the virus is still in your body. To establish that the virus is still present in the body a further blood test known as a PCR or viral RNA test is carried out.

Once you receive a positive PCR test you will then have further tests to find out which 'genotype' or strain of the virus you have (these are subtypes numbered 1-4), and the condition of your liver amongst others.

Treatment

Drug treatment to eradicate the virus has advanced greatly in the last few years with success rates now around 50 per cent for genotype 1 and 80 per cent for genotypes 2 and 3. Three of the most genotypes most common in the UK. However, the treatment can have significant side effects and is not suitable for everyone. Even if treatment does not work it can help to slow down the progression of liver damage.

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Patients diagnosed with hepatitis C are offered the combination therapy of pegylated interferon alpha and ribavirin. It is effective in clearing the virus in around 50 per cent of people overall and 80 per cent in those with specific genotypes (2 or 3).

New treatment

Three months ago the National Institute for Health and Clinical Excellence (NICE) delivered new guidance recommending that everyone with the virus was now eligible for treatment. Previously you had to wait until you had at least moderate liver damage before being eligible. Chief Executive and Executive Lead at NICE, Andrew Dillon explained that by treating patients with this combined drug therapy "when symptoms are milder it can be effective at suppressing the virus and delaying disease progression."

He went on to point out the advantage of the treatment being "cost effective – for example early treatment might prevent the need for a costly and complicated liver transplant at a later stage. "Such guidance needs to be implemented quickly throughout the NHS stressed Charles Gore, Chief Executive of the Hepatitis C Trust, calling "on all those involved to ensure patients are offered the opportunity to benefit from these treatments as soon as possible." [NICE 2006/040]

With this standard of current care becoming the norm, it is possible for 50-50 per cent of patients with hepatitis C to be cured.

Hepatitis C the way ahead

These are exciting times in hepatitis C virus research, with impetus being given to the field by the ability to culture the virus and the new range of antiviral compounds that provide hope for combating infection. The 14th International Symposium on Hepatitis C and related viruses will provide a forum for presentations on exciting developments not only in these fields but also in other areas where research on the virus is flourishing.

Symposium

The 14th International Symposium on Hepatitis C and related viruses will be held from September 9th-13th 2007 in Glasgow, Scotland.


NEWS IN BRIEF

Snorting drugs and hepatitis C It's a popular misperception that the correlation between hepatitis C virus (HCV) and drug use only applies to the shared use of needles. New research shows that those partaking in intranasal drug use (snorting, drugs, like cocaine which is particularly corrosive, through the nose) risk exposing themselves to the HCV infection.

The blood borne virus can survive for up to a week outside the body, and people using intranasal drugs may not notice small amounts of blood on a rolled up note or straw that they are sharing to take the drug.

Hepatitis C attacks the liver which can cause cancer and cirrhosis which can lead to death if untreated, it also has few and sometimes no symptoms which is why it is sometimes referred to as the 'silent killer'.

Drug users can prevent the spread of the disease and the risk they expose themselves to by ceasing to share the things that spread it. If you think you may have been at risk from hepatitis C, get yourself tested, HCV is treatable but you need to be diagnosed first. For more information log on to: www.hepctrust.org and whatnottoshare.com

B supported/B informed The recently launched Hepatitis B Foundation UK is the only charity in the UK solely dedicated to supporting people with hepatitis B and raising awareness of this infectious disease.

It’s clear that the charity is meeting a real need as results of a national survey of 2,279 UK adults carried out by YouGov in September this year revealed alarming ignorance about hepatitis B. For example, only 17 per cent of respondents knew that hepatitis B is more infectious than HIV and only 11 per cent were aware that hepatitis B can lead to cancer.

Penny Wilson-Webb, Hepatitis B Foundation UK Coordinator, doesn’t play down the challenge facing the charity: “We know we have a huge task ahead in raising awareness of hepatitis B and in tackling the problem of stigma.” But she’s upbeat about the charity’s ability to rise to the challenge: “We have a crack team headed up by world renowned viral hepatitis expert, Professor Arie Zuckerman. We’re also greatly encouraged by patients and sponsors, and every time the phone goes and we talk with someone who’s feeling isolated and afraid, we know we’re providing a much needed service”.

Web: www.hepb.org.uk Telephone: 01227 738279
Living with hepatitis C: two people's experiences

The stigma attached to hepatitis C can make people avoid getting tested and talking about their condition. The hepatitis C virus doesn't discriminate, to see its possible face you need only look in the mirror.

What follows is a moving account by a woman who passed the hepatitis C virus on to her daughter; and the second is an account by Jonathan Colam and his experience of coping with the disease.

“My paediatrician assured me there was a mere two per cent chance of my next child being positive. A sign on the ward toilet warned other mothers it was only to be used by me. At 18 months the test confirmed my worst. After the initial shock, the questions we never want to ask about our children arose.”

“... I was advised by Eliza’s consultant not to ask about the risk to other pupils and staff – echoing the reaction to AIDS 20 years ago. I found out why when...”

“I was advised by Eliza’s consultant not to ask about the risk to other pupils and staff – echoing the reaction to Aids 20 years ago, the fear and needless panic.”

This year Eliza underwent treatment for hepatitis C. She suffered side effects. We survived, thanks to the support of our wonderful paediatrician and The Children’s Liver Foundation. Nothing can prepare you for the guilt attached to bequeathing a child an illness, or the deceit one has to resort to in order to protect them from people’s assumptions about this disease. Eliza tested negative last month. I am still living with the disease.”

Jonathan Colam, 35 from Norfolk: “Although I wasn’t diagnosed with hepatitis C until 1999, I believe I contracted the virus when I was 11 years old, from a treatment for haemophilia. That means I was infected with a virus which was slowly and progressively damaging my liver for 17 years without knowing it!”

Despite being willing to have treatment straight after my diagnosis, I had to wait five years to be finally given a chance to clear this virus. By then I had developed fibrosis and was suffering from lots of symptoms including liver pains, night sweats and mood swings. Living with hepatitis C was not easy and the same applies to my treatment experience. While taking the drugs, I suffered from a lot of side effects and even needed counselling. However, I am now virus free and can finally realise what it is to be well.”

Natural history of Hepatitis B

The World Health Organisation estimates that one third of the world’s population has been infected with the hepatitis B virus at some time in their life and of those who have been infected more than 350 million will have chronic, lifelong, infection. Although current prevalence of chronic hepatitis B infection in the UK is relatively low there are signs that it is on the increase.

By Emma Bowler

The hepatitis B virus is transmitted through contact with blood or body fluids of an infected person. While HIV, human immunodeficiency virus, the virus that causes Aids is transmitted in the same way, the hepatitis B virus is said to be up to 100 times more infectious.

Transmission can occur via a wound, cut or scratch, the use of contaminated medical instruments, transfusion of infected blood products or via a contaminated needle. The British Liver Trust explains: “Just a tiny amount of blood from an infected person will pass on the infection if it gets into the bloodstream. It is important to know that the virus can survive in dried blood for up to a week.”

Those most at risk of infection include those having unprotected sex with infected individuals, injecting drug users, babies of infected mothers, family members of infected individuals, healthcare workers who have direct contact with blood and people travelling and working in countries where the virus is common, such as South-East Asia, the Middle and Far East, Southern Europe and Africa.

Drug use

Worldwide most infections occur from infected mother to child and from child to child. In developed countries, such as the UK, the main way the virus is passed from person to person is by injecting drug use or unprotected sex.

Ignorance of the virus, an increase in foreign travel and the impact of immigration mean hepatitis B infection looks set to rise in the UK. The British Liver Trust says: “We can no longer ignore the threat to public health. More easily accessible information and a greater awareness of prevention measures are essential.”

Your liver, your life

What the liver means to the body

Should you find you are living with chronic hepatitis C you will find the health of your liver is jeopardized. The liver is the largest and one of the most important internal organs in the body. It performs over 500 functions which makes its efficient functioning essential to health. It is the body’s great neutraliser, filtering poisons from the blood and helping to break down food into energy.

Living with chronic hepatitis C

Chronic hepatitis C is treatable; it can be managed with monitoring, treatment and any necessary lifestyle changes. These are as simple as eating a balanced diet to ensure your body receives the nutrients it needs, making sure you get enough rest and exercise. The most important change is to avoid alcohol as it speeds up the progression of the disease.

Liver damage

Damage begins with persistent inflammation of the liver and eventually leads to fibrosis (formation of scar tissue), possible accumulation of fat around the liver and cirrhosis (fibrotic scarring). Over time the liver hardens making it increasingly difficult for blood to flow through it. As a result, the blood becomes diverted around the liver and a series of serious complications may occur because important functions are not performed. Hepatitis C can also cause liver cancer.
Treatment and prevention of these diseases is a major challenge to healthcare systems around the world. The major advances to address this challenge have come from the use of innovative bioscience, whether in the development of vaccines or biopharmaceutical drugs.

Treatment

Until the development of interferon alpha (IFN-α) in the 1980s there was no effective treatment for either hepatitis B or C. Initially, interferon alpha was extracted from cultures of white blood cells from healthy people, but this was abandoned in the late 1980s as genetic engineering enabled the production of sufficient quantities of pure interferon alpha.

Interferon alpha has been used successfully to treat hepatitis B. For hepatitis C it is usually used in conjunction with other drugs with response rates of 50-80 per cent depending on the genotype of the virus.

New antiviral drugs that prevent the replication of the hepatitis B or C virus in the body are now being developed and tested. One of the most recent developments for patients that are resistant to interferon alpha or combined therapies is the use of antisense drugs made from small interfering RNA which interferes with the expression of a viral gene.

Another advance is the development of a therapeutic vaccine for hepatitis B which inserts the DNA coding sequence for a virus protein into the body, which revivifies the immune response against the virus.

Prevention

Bioscience and pharmaceutical companies have also followed the age-old adage that ‘prevention is better than a cure’ and vaccines for hepatitis B have been available since the 1980s. These contain an inactivated virus protein and were initially produced from the plasma of infected patients in limited quantities. However, the use of genetic engineering techniques has allowed hepatitis B antigens to be produced on a large scale in fermenters similar to those used for brewing beer and has reduced costs. As vaccination has been shown to work in almost 90 per cent of cases, some countries now routinely vaccinate children against hepatitis B. A number of bioscience companies are working to develop new hepatitis B vaccines that use different antigens to those currently used.

However, for hepatitis C it is a different story – no vaccine is currently available. A number of companies are conducting research in this area. The potential vaccines they have developed are now in clinical trials and, if successful, will reach the market in the next few years.

Prevention and treatment of hepatitis B and C will remain a healthcare challenge in the coming years, but should become increasingly manageable as new vaccines and drugs being developed by UK-based pharmaceutical companies, among others, become available for patients.

Hepatitis B and C: invisible killers

Hepatitis B and C kill more than two million people every year and nearly one billion people are carriers of one of the viruses that cause these diseases. Both hepatitis B and C are spread through infected blood or sexual intercourse and can remain asymptomatic – or hidden – for a number of years. When the diseases strike they can cause cirrhosis or liver cancer and can be fatal.

BY AISLING BURNAND, CHIEF EXECUTIVE, BIOINDUSTRY ASSOCIATION
Advice you can depend on

Helpline: 0870 770 8028
www.britishlivertrust.org.uk
info@britishlivertrust.org.uk

Fighting liver disease