

HEPATITIS A AND B, INFO FOR TRAVELLERS

1 Hepatitis A

This viral hepatitis was previously known as “infectious hepatitis” because of its infectious and epidemic nature. Transmission takes place via food, drinks or objects directly or indirectly contaminated with faeces (faeco-oral infection). The incubation time is 2 to 6 weeks.

In countries with low hygiene standards practically everyone gets infected during childhood, whereupon the disease usually proceeds without or with minor symptoms. In industrialised countries the infection tends to occur in middle to old age. As a result of the good hygiene conditions in Western Europe the chance of getting hepatitis A has become rather small, so that at present most travellers have no antibodies and are unprotected.

Following infection of adults (e.g. while travelling) there is a greater risk of hepatitis with severe symptoms. Hepatitis A usually remains a mild disease. However, in adults, the disease can be prolonged and become life-threatening. In most cases, the acute disease lasts several weeks and is usually followed by a fairly long period of pronounced fatigue. Hepatitis with a prolonged and fluctuating course (up to 6 months) can occur. Fulminant hepatitis has a 30% mortality and occurs in 1 case in 1,000 rising to more than 20 times this level in those over the age of 40 years.

The risk of infection with hepatitis A while travelling in a (sub)tropical area is very real (1/300 to 1/600 per month for ordinary tourist travel) and can run up to 1/50 per month in very unhygienic conditions. Before the introduction of vaccination it was a frequent reason for interrupting a trip in the tropics or for repatriation of employees working abroad.

Vaccination

The hepatitis A vaccine (Havrix®, Vaqta®) is very effective, with rapid production of protective antibodies, which within a few weeks after the first injection offer total protection in almost 100% of the cases.

The **vaccination scheme** is: 2 intramuscular injections with an interval of 6 months to 1 year between injections. This second inoculation provides protection for at least 10 years. One dose costs approximately 43 €.

Tolerance of the vaccine is excellent. It may be given to small children and to pregnant women. Half a dose is sufficient for children up to and including 15 years of age (Havrix Junior 720 units – price: 28,83 €). The vaccine may be administered simultaneously with all other vaccines, as it is a killed vaccine. (A combined hepatitis A and B vaccine: Twinrix® exists - see below.)

Infection with hepatitis A virus gives protection for life so that no vaccination is required.

People who stay for longer than 1 year in the tropics or who have reached the age of 40-50 years may well have already had hepatitis A, which often occurs without symptoms. In these cases it is advisable to first test for the presence of protective antibodies before attempting vaccination. The presence of hepatitis A IgG antibodies (but not IgM) indicates prior infection.

Vaccination offers practically 100% protection for 10 years, and perhaps for much longer. It is undoubtedly a responsible investment for all who travel in unhygienic circumstances and for those who travel regularly or for long periods (several weeks) to endemic countries, even when this is in good hygienic circumstances. The occasional traveller who travels to a tropical country for a short time and in good hygienic conditions must decide for him/herself whether to have the vaccination or not.

It must of course be realized that the terms "occasional traveller" and "good hygienic circumstances" are very relative:

- Inquiries show that more than half of travellers travel again to a risky country within the next few years.
- Even in luxury hotels there is no guarantee of freedom from hepatitis A (1 in 300 persons per month). The World Health Organization (WHO) advises every traveller to Africa, Latin America and Asia to be vaccinated.

N.B. Gamma-globulins

At present there are quite expensive specific gamma-globulins against hepatitis A. Protection by gamma-globulins occurs quite quickly after intramuscular administration. They are best administered only days before or immediately before departure.

Gamma-globulins have a proven efficacy of 85%, though this remains limited in time (3 to 6 months).

Gamma-globulins may be given together with all killed vaccines, as well as with vaccination against yellow fever, oral typhoid vaccine and oral poliomyelitis vaccine. Other live vaccines against hepatitis A must be given at least 2 weeks before the gamma-globulins, or else 6 or preferably 12 weeks later.

Side effects are rare (e.g. local pain, arthralgias, urticarial rash, fever). An anaphylactic reaction can occur after repeated injections in people with an IgA deficiency.

There is no risk of transmission of AIDS (any HIV possibly present is killed during the preparatory procedure).

Now that a safe and effective vaccine against hepatitis A is available, gamma-globulins should be regarded as an outdated form of immunoprotection.

2 Hepatitis B

Hepatitis B is a viral liver inflammation, transmitted via contaminated blood and blood products (blood transfusion, contaminated needles, open wounds), or via sexual contact. "Vertical" transmission from mother to child (principally in the period around birth) is also a major transmission route. In addition to this there is also "horizontal" transmission, such as in children who live in institutions or children in developing countries. Here transmission takes place via minor wounds, scratch lesions or bites. The saliva of some virus carriers contains infectious particles. Transmission from adopted children, who are carriers, to members of the receiving family, can happen via horizontal transmission. Most cases of hepatitis B infection proceed asymptotically (estimates vary from 50 to 90%). A symptomatic infection with hepatitis B usually signifies being very ill (with absence from work for several months). The risk of a fulminant course of the hepatitis is estimated at 1/100 to 1/1000, with mortality of 1 in 3 of such cases. If an adult is infected, there is approximately a 1 in 10 risk of becoming a chronic carrier, irrespective of whether the infection is asymptomatic. About 85% of babies infected at birth become chronic carriers.

However, the most insidious aspect for these carriers is the possibility of developing chronically aggressive hepatitis, which is estimated at 3% of all infections. In most cases chronic aggressive hepatitis eventually leads to liver cirrhosis and primary liver cell carcinoma albeit after a long delay.

The vast majority of the 350 million carriers of the hepatitis B virus live in third world countries. Worldwide the hepatitis B virus is therefore a major cause of liver cirrhosis and primary liver cell carcinoma. The World Health Organization puts hepatitis B in 9th place for the principal causes of death in the world. It is estimated that hepatitis B takes 1 million human lives per year.

In Italy, a country where hepatitis B is moderately endemic, it is estimated that the number of new cases per year is 300,000, and that there are probably 9,000 deaths per year due to cirrhosis and primary liver cell carcinoma. In Belgium approximately 7 to 8% of the population have been in contact with the virus, and 7 in 1,000 inhabitants are carriers of the virus.

However, it appears from a number of well documented studies that the ordinary tourist does not run any greater risk of an infection with hepatitis B than in his/her own country, unless he/she indulges in sexual promiscuity (the risk while travelling varies from 1/2,000 to 1/10,000 per month).

Vaccine

The present hepatitis B vaccine is very effective and 100% safe. An antibody response is obtained in 90 – 95% of vaccinated adults. This is even higher in children. Babies are now systematically vaccinated.

Basic scheme:

- **scheme:** 2 injections with one month between injections, **3rd injection** after 6 months (protection soon after third injection).
- **rapid scheme:** 3 injections with 1 month between injections, repeat injection after 1 year (protected after 2-3 months). If there is an urgent necessity for rapid immunity, the first 3 injections may be administered at intervals of only 1 to 2 weeks. A **4th** injection after 1 year is necessary.

One dose costs 26,87 €. A satisfactory immunological response is obtained in the majority (>90%) of patients after 3 inoculations. Booster vaccinations can be given every 5 to 10 years, though it is not certain whether these are really necessary. The vaccine may be administered together with any other vaccine. Half dose (= Junior form; cost price 15,46 €, which is reimbursed for children up to and including 12 years of age) suffices for children up to and including 15 years of age. If vaccination against Hepatitis A and B is indicated, the cheaper combined form Twinrix® (adult price = 40,08 €; paediatric dose up to and including 15 years = 26,99 €) should be used.

Indications

There is often no indication for vaccination for the ordinary tourist, or at any rate not more urgently than for someone who stays at home. However, the risk of infection during a stay in Africa, Asia or Latin America can significantly increase when the traveller belongs to one of the so-called higher risk groups. Vaccination is strongly advised for certain risk groups (WHO recommendation):

- People who regularly travel to Asia, Latin America, Africa.
- People who go to (sub)tropical areas for long periods (from 3-6 months) are likewise eligible for vaccination, even if the hygienic standard of living is high throughout the whole stay. Employers are obliged by law to provide the necessary information on hepatitis B infection to their employees who for professional reasons have to stay repeatedly or for long periods in areas where hepatitis B is widespread (Southeast Asia and Africa), and to offer the possibility of having themselves vaccinated (Belgisch Staatsblad of 10.02.1988). Hepatitis B vaccination is definitely recommended for children who are going to live in rather primitive conditions in developing countries and have regular contact with local children. Here there is a real risk of horizontal transmission. The same applies for children

of immigrants from countries with a large number of virus carriers, when they spend their holidays in their motherland.

- All medical personnel and other health workers should be vaccinated (whether they travel or not).
- Hepatitis B vaccination is now routine for babies and infants. Children in the first year of secondary education are also vaccinated. Going on a trip is an opportunity for adolescents and young adults to be vaccinated and hence to be recruited into the WHO programme for universal hepatitis B vaccination for eradication of this disease. 75% of the cost of the vaccine for children 13 to 15 years of age is reimbursed (subject to presenting a certificate to the medical advisor).
- For travellers who may have sexual contacts, or who may have to undergo medical and/or dental surgery, hepatitis B vaccination should not give a false sense of security, as the risk of other sexually transmissible diseases and AIDS remains just as real. Furthermore, transmission is also possible via contaminated syringes and needles of intravenous drug users, tattooing with non-sterile instruments, acupuncture, etc.

For all these risk groups the argument of cost should not outweigh the benefit of being vaccinated and protected. At least 3 doses should be administered before departure, so that a satisfactory immunological response is obtained. For people who are going to live and work in the tropics it is certainly worth the trouble to at least start the vaccination, even if it is not possible to go through the whole series before departure. It is known from stability studies that Engerix-B® injection ampoules can be taken in hand-luggage during a flight, and can be kept in a refrigerator upon arrival at the final destination. As the vaccine is already packed in an injection syringe with needle, safe administration is possible, even in the (sub)tropics.