A cheap last-minute holiday

Can turn out to be very costly...

Trips to tropical destinations are becoming ever cheaper. A last-minute holiday to places like Gambia is easily affordable even for those with a limited budget. What is often forgotten, however, is that such travels carry certain medical risks, risks that can be effectively prevented by vaccinations and other forms of prophylaxis. Even if travellers are aware that they need vaccinations, they may still decide to forego them because the set of prophylactic measures is almost as expensive, if not more so, as the trip itself. It seems so obvious that we want to leave home in good health and return in the same good health. Nevertheless, almost half of travellers to faraway destinations depart without any protection.

BY: DR. RIES (M.A.) SCHOUTEN

It is during afternoon surgery that the GP sees her patient Mr Jansen, who has come to have sutures removed. Mr Jansen was recently rushed to hospital with abdominal pain, which turned out to have been caused by a dissection of the a. lienalis. He also had a splenectomy because of a large infarct in the spleen, and it is the sutures of that operation that now have to be removed. Mr Jansen talks enthusiastically about his upcoming holiday to the Dominican Republic, to relax after all his troubles, at a resort in Punta Cana. The GP asks him whether all the vaccinations have been arranged, but Mr Jansen says the surgeon has told him that no vaccinations or additional measures would be necessary after his operation. The GP has her doubts about this advice, and contacts a travel physician to make sure. Their conclusion is that it is not a good idea for Mr Jansen to travel to the Dominican republic in his present condition; tropical malaria is currently very prevalent in Punta Cana, and this could easily be fatal to an asplenic man. In addition, his splenectomy makes him more susceptible to all kinds of infections, and he would need to be protected against them by having vaccinations and by carrying antibiotics with him. Mr Jansen leaves the practice somewhat shaken. A week later the doctor receives a postcard with greetings from sunny Miami.

Risks run by immunocompromised patients

It is not only the tendency to travel to ever more exotic destinations, but also the immunosuppressive therapies that are increasingly being used which means that prospective travellers need to take better medical precautions.

Dr. Ries (MA) Schouten After obtaining his medical degree, Dr. Ries (MA) Schouten worked as a tropical doctor in Thailand and Rwanda. He specialised as physician-microbiologist at the St. Radboud hospital in Nijmegen. In 1999 he joined the regional partnership for medical microbiology and medical immunology in the province of Gelderland, and he also works at the Gelderse Vallei hospital in Ede, where he specialises in parasitology, tropical diseases and traveller care. He also works at the Vivre Travel Clinic. He received his PhD degree in 2001, on a thesis entitled: 'Vancomycin-Resistant Enterococci; Epidemiology and Control'. e-mail: schoutenr@zgv.nl

Figure 1. *A beautiful exotic holiday destination ....*

This is even more important now that patients often use biologicals, which make them feel much better and more mobile. Patients with rheumatism who previously were hardly able to leave their home are now preparing to go trekking in the Himalayas. But even less remote places may present dangers that the average traveller is not aware of. For instance, travellers to Turkey often forget that it is essential for them to be protected against hepatitis A, even – or perhaps especially – when they go to visit relatives there. In addition, infectious diseases are moving our way too; malaria is now present in parts of Greece, and you can contract dengue even in Madeira. It is therefore essential for travellers, especially those with a compromised immune system, to be well informed of the health risks associated with the countries they want to visit, and to get tailored advice about the protective measures they need to take.

How much time is required for a thorough preparation?

At what point in time should travellers get medical advice? It is usually sufficient to have the first consultation 6 weeks before they leave. If a series of vaccinations is required, for instance four rabies shots over a four-week period, they really need that time to prepare. People who use biologicals and want to travel to an African or South-American country where yellow fever is endemic face an additional challenge. The yellow fever vaccine is a live attenuated vaccine that cannot be administered to immunocompromised persons. If such people want to travel to an area where yellow fever is endemic, they have a few alternatives, the safest being not to go to such areas at all. Another option is for the doctor to consider, together with the traveller, how great the risk of contracting yellow fever is in the area to be visited, and weigh this against the urgency of the trip.

If the traveller is willing to take the risk, a statement can be drawn up which says that yellow fever vaccination is impossible for medical reasons. Countries are usually prepared to admit travellers with such a statement, one cannot always be sure of this. A further option is to temporarily suspend the immunosuppressive therapy and then, after the wash-out period of the biological, have the vaccination. However, with some biologicals it can take as much as 6 months after their use is discontinued before vaccination can take place without danger. In view of the underlying disorder and the complaints that will reappear within this period, one may wonder whether it is sensible to suspend the biologicals for such a long period.

Prevention is better than cure

To prevent all these problems it is much more convenient to refer all patients who have not yet started biologicals therapy to a centre that provides vaccinations in general and advice to travellers in particular. The staff can then discuss with the patient what vaccinations will be necessary in any case in view of the intended biologicals therapy, and if any supplementary vaccinations are required should the patient decide to take a trip in the future. Centres like the travel clinics are also equipped for storing, administering and officially recording vaccinations, often assisted by the necessary IT support, which simplifies and safeguards the process of inviting patients for repeat vaccinations. The average outpatient clinic is unable to keep such a variety of vaccines in stock, and even if they can, staff usually do not have the time to provide vaccinations in addition to the normal consultations.

Figure 2. *Vaccination centre in Bangkok.*

Hence it makes sense to look within the hospital setting for an opportunity to create a central clinic to which all doctors who prescribe biologicals can refer their patients for vaccinations and advice. What remains a problem is the financial aspects; vaccinations that are necessary because of the use of biologicals have to be paid for and reimbursed, whereas vaccinations for the purpose of travel in general are part of non-insured or additional privately insured care. It will be quite a challenge to solve this financial conundrum and keep the system manageable for all parties.

What type of prevention is advisable and sensible?

What kind of preventive measures need to be taken? As we saw above, that depends on the patient's immune status and the risks the patient is going to run, that is, the epidemiology of infectious diseases. Guidelines have been established in different countries, which however show major differences. The preventive measures that apply in specific countries and that are often used in the Netherlands have been included in the guideline published by the Dutch Landelijk Coördinatiecentrum Reizigersadvisering (national coordination centre for travellers' advice; LCR). This document shows for each country what measures are recommended, or even obligatory, for travellers. It also states whether immune-compromised travellers have to take additional precautionary measures. The guideline is not freely accessible to the public; only subscribers receive the LCR protocols and can consult them on the LCR website. Virtually all professionals who are involved in travel advice use this LCR guideline.

Nevertheless, it may happen that people who travel together but have visited different travel advice centres will have been given different recommendations. This does not mean that they have been given incorrect advice; during each consultation, the staff and the prospective traveller will discuss which risks are relevant to each individual, and what risks the actual journey or the country of destination carries. The traveller's health status and the degree to which they are prepared to accept risks will determine the set of measures eventually decided upon. Travellers to certain countries are strongly

advised to have rabies vaccination, but since this is rather costly, some travellers are prepared to accept the risk of rabies.

Guidelines and special situations regarding the risk of infection

The main concern during the first consultation is whether the traveller has had all routine vaccinations included in the Dutch national vaccination programme and whether these still offer enough protection. If necessary, the protection levels are brought back up to standard. In addition, the LCR guideline will be consulted to see which supplementary vaccinations are required, based on the country to be visited and the person's underlying disorder(s) and medication use. Various recommendations may be given about ways to avoid certain risks (e.g. infection). These recommendations may depend on the time and place; a disease like Japanese encephalitis is transferred especially frequently during the rainy season, as the vector is more prevalent then. A short trip during the dry season therefore carries a much lower risk, which may mean there is no need for vaccination. Special situations may necessitate additional measures. If there is an outbreak of meningitis in the intended part of Africa at the time, then meningitis vaccination is indicated, even if the region is outside the usual "meningitis belt." Foreign authorities may also impose additional requirements. For instance, pilgrims travelling to Mecca have to be vaccinated against meningococci. This obligation was introduced after some outbreaks of meningitis originating from Mecca. Another risk in Mecca is that of contracting hepatitis B. After the pilgrimage, men get their heads shaved by local barbers. Since hepatitis B is common in Saudi-Arabia, these barbers are obliged to use a new razor blade for each customer, but not all barbers do so. And the pilgrims go barefoot, which means that the risk of stepping on a used blade is very real. Full hepatitis B vaccination requires at least 6 months of preparation time.

Adapting vaccination advice to the current situation

The epidemiology of infectious diseases changes constantly, with new outbreaks occurring in unexpected places, and government requirements may also, rightly or wrongly, change. It is therefore important that advisory bodies continuously keep track of new developments, as advice to travellers may have to be drastically adjusted in view of recent developments.

Malaria prophylaxis

One of the elements of advice to travellers that is subject to change is malaria prophylaxis. Unfortunately, parasites are becoming increasingly resistant against the current medications. Prophylaxis that was effective last year may now prove ineffective. In addition, people may suffer side-effects of prophylaxis. And you do not want to find

Figure 3. *Malaria mosquito.*

out about these side-effects when you are already deep in the rainforest, so it is better to take a trial dose of the prophylactic before going on the journey. This is not necessarily true for all people and all prophylactics, however. Mefloquine in particular has a poor reputation

among the public because of the psychological problems (mood swings and hallucinations) it is thought to cause. Hence it may be a good idea to get people who have experienced such psychological problems in the past to take a trial dose at home to see what happens. Should they not tolerate the drug, there is still time to switch to another drug.

Due to the many scare stories about prophylaxis that circulate on the internet, it may sometimes be difficult to convince people that prophylaxis is really necessary. Special attention should be given to people who have grown up in a country where malaria is endemic, who have resided for several years in a different country where malaria does not occur, and who now now travel to their country of birth, for instance to visit their relatives. Such people often fail to report for malaria prophylaxis, as they assume they are protected against the disease. They argue that they grew up in a country where malaria was endemic and have probably had malaria several times. What they do not realise is that their immunity against malaria has in the meantime largely faded. If they have lived outside their country of birth, in a country free of malaria, for more than a year, they run the same risk of contracting malaria as any native of their new country. Unlike their relatives who have remained in their country of birth, they will therefore need prophylaxis during their visit.

Ignorance (and often foolishness) can cause dangerous situations. A few years ago, a Dutchman was admitted to our hospital with severe malaria he had contracted during a business trip to South-Africa. This man had assumed that malaria prophylaxis was only relevant for tourists, not for business travellers, and had not realised that malaria mosquitoes do not make that distinction when they start sucking blood.

Travellers sometimes return from tropical destinations and report that they have had malaria during their stay there. They have been seen at a local medical clinic because of fever, where they were diagnosed with malaria. Studies among such travellers who have been diagnosed with malaria in foreign countries have found that very few of them have antibodies against malaria, so most of them have not actually had malaria at all.

The standard of medical care in clinics in remote areas in the tropics can obviously not be compared with that in Western countries. Diagnostic facilities are usually limited, as is the range of available therapeutics.

Malaria is a well-known cause of death in such regions, so it is not hard to understand that local health workers will often decide empirically that a fever requires antimalaria therapy.

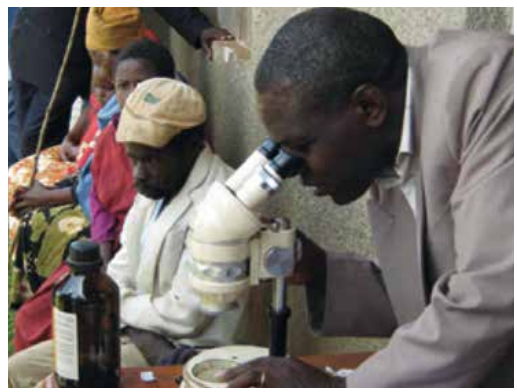

Figure 4. *Medical centre and malaria diagnostics in Uganda.*

Practice recommendations

People whose spleen has been removed or does not function properly, as we saw in the case of Mr Jansen, are at greatly increased risk of infections by capsulated bacteria, as these bacteria are normally removed from the bloodstream by the spleen. A recently published guideline describes in detail what preventive measures need to be taken in case of asplenia and what advice should be given to such patients. Unfortunately, the necessary precautions are not always taken after a splenectomy, and a considerable health gain is to be expected here by starting preventive measures in time – before the operation in the case of elective splenectomy. Another important aspect is that the introduction of new drugs, such as biologicals, has meant that patients who used to be prevented from going on trips to distant destinations by their condition can now do so, which greatly increases the risk of dangerous infections. This risk should be carefully considered when starting such therapies, in order to avoid unnecessary suffering and expenses.