Taking a history from a returned traveller

**THINKING** about the possibility of travel-related disease and inquiring about a travel history is vital. Some people may not see travel as a significant issue in their presenting problems and may not mention having been away unless asked.

In the travel history it is important to ask the following questions:

**When, where and for how long did the patient travel?**

Timing of symptoms to travel movements can help to either include or exclude some diagnostic possibilities. For example, short incubation illnesses such as dengue fever and yellow fever are excluded by onset of symptoms more than 10 days after return.

The destination and type of accommodation are also important. Rural travel is associated with a higher risk of many infectious conditions, including malaria and diseases related to exposure to animals.

Longer duration of travel is often directly related to increased risk. The countries and areas visited also influence the possible exposures.

**What were the living conditions and activities during travel?**

People staying in budget accommodation may be more likely to be exposed to vectors of infection, such as insects. Crowded accommodation or transport is also associated with increased risk of respiratory infections such as influenza.

Adventure travellers may be exposed to a range of other risks, for example, injuries with surfing, or arboviruses and rickettsial infection with people going hiking.

Other potential at-risk exposures include sexual contact, medical and non-medical injections, blood transfusions, unsafe food and drink, swimming or wading in fresh water, and animal and insect bites.

**What is the traveller’s age, past medical history and risk factors?**

Some travellers are at risk because of pre-existing illness or risk factors. There are many examples, such as immune deficiency increases the risk of infectious diseases; risk of DVT is increased by a previous episode; thrombophilia; malignancy; recent surgery; obesity; oestrogen therapy and smoking.

**Did the traveller receive immunisation and prophylaxis?**

Some infectious disease possibilities will be ruled out or made unlikely by a history of immunisation, for example, hepatitis A and B.

Although there is no perfect prophylactic drug for malaria, the disease is less likely in those who have adhered to use of an appropriate drug.

**Did the trip involve air travel?**

Travel, in particular (but not only) air travel, may be a risk for developing thromboembolic disease, which can present as DVT or pulmonary embolism.

**ASSSESSMENT** involves a thorough history and examination. As stated earlier, the timing of onset of fever in relation to travel can be helpful.

Patients can be categorised into broad groups depending on their presentation as described below. Early recognition and referral of potentially life-threatening conditions such as falciparum malaria is vital.

Patterns of presentation of infectious diseases in the returned traveller include:

- **Fever**
- **Jaundice**
- **Respiratory infections**
- **Diarrhoea**
- **Eosinophilia**
- **Lesions in the skin and soft tissue**
- **Asymptomatic presentations**

**Fever**

Fever in a returned traveller can be due to a wide variety of causes. These include malaria, GI infections, respiratory infections such as influenza, UTIs and non-infectious causes such as drug-related fevers. The most urgently life-threatening condition is falciparum malaria.

**Malaria**

Australia experiences 700-900 cases of imported malaria each year. The most common sources of infection are Papua New Guinea, the Solomon Islands, Vanuatu and South East Asia.

The risk is higher in travellers who stay overnight in rural areas. Most people who get malaria were either not taking prophylaxis (about 45% of cases) or not using it properly. The most common mistake is to stop taking medication sooner than four weeks after return.

Malaria can present in a variety of ways. Fever can be irregular, especially early in the illness, and rigors may be absent. The presentation may be variable with respect to features such as headache, diarrhoea, nausea or arthralgia.

Jaundice can also occur, especially with falciparum malaria, and splenomegaly may be present on abdominal examination.

Time is critical, as untreated falciparum malaria can be fatal in 24-48 hours after presentation. It is therefore vital that, if the traveller is not being referred to hospital immediately, the results of investigations, including malaria slides and rapid tests, are followed up and acted on quickly.

**Diagnosing malaria**

Malaria is not excluded on a single film, as initial blood smears can be negative. Infectious diseases specialists often recommend repeating films every 6-12 hours for 36-48 hours before ruling out the diagnosis.

Thick films are more sensitive but thin films are better for identifying the species (figure 1). Other investigations in the febrile returned traveller are shown in table 1.

In malaria there may be anaemia resulting from haemolysis and bone marrow suppression. Blood cultures are a vital investigation and are too seldom performed in general practice. Your pathology provider can provide you with culture bottles. Careful attention to asepsis to avoid contamination is important when taking the culture. A no-touch technique is a good way of trying to ensure this.

**Diagnosis**

Some people with falciparum malaria should be referred for hospital admission, where drug treatment often involves one of the following:

- Quinine plus doxycycline or pyrimethamine/sulfadoxine
- Mefloquine (Larum)
- Atovaquone and proguanil combination (Malarone)

Patients with other forms of malaria can be treated as outpatients. Consultation with an infectious diseases physician may be needed, depending on the experience of the GP. A common regimen is chloroquine followed by primaquine (to eradicate the liver stages of Plasmodium vivax or P ovale [figure 2]).

For the latest treatment guidelines and doses refer to *Therapeutic Guidelines: Antimicrobials*. This publication states that glucose-6-phosphate dehydrogenase deficiency should be excluded before use of primaquine, as severe haemolysis may occur in these patients.

**Dengue fever**

Dengue infection is caused by a flavivirus, of which there are four known serotypes. Its incidence worldwide is increasing as human activity creates more breeding sites for the mosquitoes (usually Aedes aegypti) that transmit the virus.

It is a short-incubation illness (less than 10 days). In adults and older children it usually presents as classic dengue fever, with high fever, headache, myalgia and rash. Dengue is sometimes called breakback fever because the myalgia is so severe.

The rash typically appears 3-4 days after onset of fever. It is maculopapular and spares the palms and the soles. Uncomplicated dengue infection presents in infants and young children as an undifferentiated febrile illness with a maculopapular rash.

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