African Trypanosomiasis (Sleeping sickness)

What is human African trypanosomiasis (sleeping sickness)?

Sleeping sickness is a disease caused by parasites from the Trypanosoma genus. It is transmitted by the bite of a tsetse fly which has previously acquired the infection from a human being or animal harbouring the parasites. Only certain species of tsetse flies actually transmit the disease.

There are two types of sleeping sickness which affect humans:

- **Trypanosoma brucei gambiense** (T.b.g.) - this is found in west and central Africa. It accounts for around 95% of all reported cases of sleeping sickness. It can take months or years after the initial infection for symptoms to develop. It causes a chronic infection in which those affected can be infected for months or years without any significant symptoms of the disease. When major symptoms finally present themselves, the disease is quite often at a fairly advanced stage involving the central nervous system.

- **Trypanosoma brucei rhodesiense** (T.b.r.) - this is found in eastern and southern Africa. It represents about 5% of all reported cases of sleeping sickness and causes an acute infection. There is rapid development of the disease in those affected, with symptoms developing a few weeks after the person has been infected. The central nervous system can be affected quite rapidly.

How do you become infected with sleeping sickness?

In most cases, you acquire sleeping sickness through the bite of an infected tsetse fly. There are, however, other ways in which people are infected with sleeping sickness:

- Mother-to-child infection: the parasite infection crosses the placenta and infects the foetus.

- Transmission through other blood-sucking insects, although this is difficult to assess.

- Accidental transmission in laboratories from contaminated needles.

Tsetse flies are only found in rural areas, so travellers to urban areas are not at risk. Tsetse flies bite during daylight hours and they are usually found in forests and areas with thick vegetation near rivers and waterholes. Sleeping sickness cannot be transmitted from person to person, other than in cases of mother-to-child transmission.
Which countries are affected by sleeping sickness?

Cases of sleeping sickness occur in 36 countries in sub-Saharan Africa where there are tsetse flies. According to the World Health Organisation (WHO), over 70% of reported cases in the last 10 years have occurred in the Democratic Republic of Congo (DRC).

In 2009, after several years of implementing surveillance and control measures, the number of cases reported dropped below 10,000 (9878) for the first time in 50 years. The downward trend continued in 2010 when 7139 new cases were reported. The estimated number of actual cases is currently 30,000, as many cases go unreported.

The countries affected are: (2010 figures):

- **Over 500 cases per year** Democratic Republic of Congo (DRC).
- **100-500 cases per year** Angola, Central African Republic, Chad, Sudan, South Sudan & Uganda.
- **Under 100 cases per year** Cameroon, Congo, Côte d'Ivoire, Equatorial Guinea, Gabon, Guinea, Malawi, Nigeria, Tanzania, Zambia & Zimbabwe.
- **No cases in over a decade** Benin, Botswana, Burkina Faso, Burundi, Ethiopia, Gambia, Ghana, Guinea Bissau, Kenya, Liberia, Mali, Mozambique, Namibia, Niger, Rwanda, Senegal, Sierra Leone, Swaziland and Togo.

** Transmission of sleeping sickness seems to have stopped in these countries but there are regions within these countries where surveillance and diagnostic activities are severely hindered by security and inaccessibility factors. It is thus impossible to state with confidence whether sleeping sickness is present in these countries or not.

What are the symptoms of sleeping sickness?

With both subspecies, symptoms usually occur in two stages:

1. **First stage (haemolymphatic phase)**: Bouts of fever, headaches, joint pains, rash, swelling of the face and hands, inflamed lymph nodes, fatigue and itching as the trypanosomes multiply. The infected bite may develop into a red sore called a chancre and the infected person will begin to lose weight.

2. **Second stage (neurological phase)**: the symptoms become more obvious as the parasites cross from the blood into the brain and infect the central nervous system. Those affected display changes in their behaviour, confusion, sensory disturbances and poor coordination. Night time sleep is severely disturbed, and patients are then overcome by sleep during the day even when standing or walking. If no treatment is given, sleeping sickness is usually fatal.

You should consult a doctor as soon as possible if you suspect you may have contracted sleeping sickness. Prompt diagnosis and treatment is essential for a good outcome.

How is it treated?

The diagnosis and treatment of sleeping sickness is complex and it requires specialised laboratory techniques. An early diagnosis before the neurological phase avoids invasive
testing and gives the best chance of a successful outcome for the patient.

The type of treatment depends on which stage the disease has reached. Drugs in the first stage are less toxic, have fewer side-effects and are easier to administer.

How do I minimise the risks of sleeping sickness?

People who are most exposed to the tsetse fly and thus to sleeping sickness are those living in rural areas dependent on agriculture, fishing, animal husbandry or hunting. Travellers and international workers are not at great risk of contracting the disease unless they spend long periods of time in risk areas.

To minimise the risk you should:

- Follow insect protection guidelines by wearing long-sleeved clothing and long trousers. Tsetse flies can bite through thin fabrics so wear clothing which is of a more substantial weight.
- Wear neutral colours. Tsetse flies are thought to be attracted to bright and dark colours.
- Apply insect repellent, and reapply frequently. Experts are unsure of the efficacy of insect repellents against tsetse flies, but they agree that repellents do provide protection from other insect-borne diseases.
- Avoid areas of heavy vegetation. Tsetse flies try to rest during the hottest part of the day and will bite if their rest is disturbed.
- Check the inside of your vehicle before getting into it. Tsetse flies like movement and are known to follow moving vehicles so keep the windows closed when you travel through an endemic area.
- Sleep under a bed net, ideally treated with an insecticide.
- Clear any shrubbery and undergrowth close to your accommodation or office as this will help to disrupt breeding sites.

Sources

World Health Organisation (WHO), Centers for Disease Control & Prevention (CDC), Health Protection Agency

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