

## 4 CASE REPORT

### Imported East African trypanosomiasis

A 52-year-old United States citizen was admitted on 27 November to a Pretoria hospital ICU with severe East African trypanosomiasis. He had travelled to Uganda, Kenya and Ethiopia for work related to church missions. Although an accurate itinerary is not presently available, he possibly acquired the infection at the Murchison Falls in western Uganda between 3 and 13 November, then went to Kisumu in western Kenya (19 November) where a skin lesion on his hand was noted, and a malaria test was apparently positive. He was treated for malaria, and was finally medivaced to South Africa from Lalibela, Ethiopia. On admission he was severely acidotic, with indications of multiorgan failure and disseminated intravascular coagulopathy. The haemoglobin was 10.7 g/dL, leukocyte count  $4.72 \times 10^9/L$  with a lymphopenia, platelets  $5 \times 10^9/L$ , urea 49.3 mmol/L, creatinine 790  $\mu\text{mol/L}$ , bilirubin 511  $\mu\text{mol/L}$  (predominantly conjugated), and hepatic transaminases were high (around 340 U/L). The C-reactive protein level was raised (246 mg/L). Numerous trypanosomes were present in the peripheral blood. Suramin was given in the recommended regimen and the trypanosomes cleared from the blood. The patient required ventilation, dialysis and plasmapheresis. Low platelet counts delayed lumbar puncture, but it was done six days after admission to check for trypanosomes in the CSF as an indicator of central nervous system involvement. No parasites were seen, and CSF cell counts and protein levels were low, suggesting that the disease had not spread to the brain. At the time of writing, 12 days after admission, he was being weaned from the ventilator and was still in renal failure.

East African trypanosomiasis (EAT) is an uncommon but acute, often fulminant and potentially fatal disease in travellers that is frequently missed or misdiagnosed as malaria. The incubation period can vary from a few days to several weeks following the bite of an infected tsetse fly. A trypanosomal chancre is a tender, erythematous and indurated swelling 2-5 centimetres in diameter that may be noted in a proportion of patients 5-15 days after the bite, and regional lymphadenopathy may be present. Typically fever and headache develop hours to days later. The haemolymphatic stage of EAT may be complicated by pancarditis including arrhythmias, acute meningo-encephalitis, profound thrombocytopenia and multi-organ failure. Examination of peripheral smears (as for malaria) may be negative and examination of the buffy coat (wet and stained preparations) is more sensitive. The differentiation of East African trypanosomiasis from West African trypanosomiasis is critical as the

treatment and clinical course of the two diseases differ dramatically. This differentiation is made on geographic history and clinical features, but the agents of the two diseases are morphologically indistinguishable.

Suramin is the treatment for the haemolymphatic stage of EAT. All patients, irrespective of clinical status, should undergo examination of cerebrospinal fluid but only after the peripheral circulation has been cleared of trypanosomes by suramin. Melarsoprol is required for managing laboratory-confirmed CNS EAT, but may be associated with significant occurrence of drug-associated encephalopathy which may be fatal. Tourists visiting game reserves in central and east African countries should be alerted to the danger of this disease for which there are no effective preventive measures, but which if acquired, needs expert diagnosis and treatment. Uganda has both types of human African trypanosomiasis, with the West African (gambian) form transmitted in the northwest of the country, and the East African (rhodesian) form in the southeast region, but with recent northern extension. Murchison Falls on the Victoria Nile is outside the usual transmission areas for both East and West African trypanosomiasis. Western Kenya has low numbers of cases, generally close to the border with Uganda and with rare exception, not near Kisumu.<sup>1</sup> Most recent cases of EAT treated in South Africa have acquired the infection in Zambia and Zimbabwe, mainly from the Luangwa Valley, Lower Zambezi and Mana Pools conservation areas. We are aware of two recent cases treated in Harare, Zimbabwe. Previously Malawi and Tanzania were the sources of most cases evacuated to Johannesburg, and additionally, a few West African trypanosomiasis (WAT) cases presenting in Cape Town and Johannesburg have been reported in the NICD Communiqué.<sup>2,3</sup>

### References

1. Simarro PP, Cecchi G, Paone M, *et al.* (2010) The atlas of human African trypanosomiasis: a contribution to global mapping of neglected tropical diseases. *Int J Health Geogr*; 9:57.
2. NICD Communicable Diseases Communiqué (2010); 9(9): 5-6.
3. NICD Communicable Diseases Communiqué (2012); 11(5): 4

**Source:** Centre for Opportunistic, Tropical, and Hospital Infections, NICD; Ampath Laboratories, Centurion; Netcare Pretoria East Hospital