

A patient with fever after a visit to South Africa

P.H.Th.J. Slee

Department of Internal Medicine, St. Antonius Hospital, Nieuwegein, the Netherlands,
e-mail: p.slee@antonius.net

CASE REPORT

A 37-year-old female patient visited Kruger National Park, South Africa, in March last year. One week later she developed low-grade fever, and a painful right knee and left hip. She noticed painful and enlarged lymph glands in her right inguinal region. She did not feel very ill and continued working. On physical examination an abnormality in the right knee hollow (*figure 1*) and painful and enlarged lymph glands in the inguinal region on the same side were noticed. Laboratory examination showed only an increased sedimentation rate of 23 mm.

Figure 1 *Knee hollow*



WHAT IS YOUR DIAGNOSIS?

See page 237 for the answer to this photo quiz.

ANSWER TO PHOTO QUIZ (ON PAGE 230)

A PATIENT WITH FEVER AFTER A VISIT TO SOUTH AFRICA

DIAGNOSIS

In the knee hollow a nodus with a central, slightly black crust, known as an eschar (tâche noire), was seen. The clinical picture characterised by an elevated temperature, an eschar in the knee hollow, painful regional lymph glands and myalgia – in the absence of a rash – after a visit to sub-Saharan Africa suggest African tick bite fever, a rickettsiosis, by *Rickettsia africae*. The patient received 2 x 100 mg doxycycline for one week and the clinical picture improved after three days. The first serological tests were negative, but 14 days later the clinical diagnosis was conformed by an IgG (1:125) and IgM (>1:125) positive for *R. conorii*, which is seen with infections with *R. africae* and *R. conorii*.

The time lag between tick bite and onset of symptoms is usually five to seven days but may be as long as ten days. Patients present with flu-like symptoms such as fever, nausea, fatigue, headache and myalgia, prominent neck muscle myalgia. A black crust surrounded by a red halo at the site of the tick bite – inoculation eschar – is present in most patients and in more than 50% of patients multiple eschars are noted. Regional lymphadenopathy is common. A generalised cutaneous rash, sometimes vesicular and usually best seen close to the eschar, is present in 15 to 46% of the patients. Serological tests (immunofluorescence) show late seroconversion, frequently more than three weeks after the onset of symptoms. The responsible tick, *Amblyomma hebraeum* (figure 2), is only present in southern Africa. In South Africa the species is distributed along the coast of the Indian Ocean, including the KwaZulu-Natal province, as well as in the north-eastern regions where many popular wildlife attractions are located.

R. conorii is the aetiological agent of Mediterranean spotted fever (fièvre boutonneuse), which is prevalent in southern Europe and is also transmitted by ticks. No specific serological test for *R. africae* is commercially available, but due to extensive cross-reactions, a commercial kit based on *R. conorii* and *R. africae* is used.

The conventional treatment is doxycyclin 2 x 100 mg for seven days.

Figure 2 *Amblyomma hebraeum*, the characteristic tick for *R. africae* (picture from Dr Peter G. Jupp, Special Pathogens Unit, National Institute for Communicable Diseases and Department of Virology, University of the Witwatersrand Johannesburg, South Africa)



REFERENCE

Jensenius M, Fournier P-E, Kelly P, Myrvang B, Raoult D. African tick bite fever. Lancet Infect Dis 2003;3:557-64.