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## Flu-like symptoms and skin lesion in travellers returning from South Africa

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**Background:** Spotted fever group rickettsiosis (SFGR) is one of the more frequent febrile illnesses occurring in travelers returning from Africa. Four rickettsial species have been detected in South Africa: *Rickettsia africae*, *R. conorii conorii*, *R. aeschlimannii* and *R. sibirica mongolitimonae*.

**Material/methods:** From December 2015 to August 2016, four travelers reporting symptoms and signs consistent with SFGR were observed at the Centre for Tropical Diseases of Negrar and at the Infectious Diseases Division of the University of Udine (Northeastern Italy). For each patient, serum and blood samples and cutaneous biopsy were stored at -80°C. Laboratory testing for SFGR (serology and qPCR on blood and skin biopsy) was carried out at the Reference Centre for Rickettsioses and other Arthropod-Borne Bacterial Diseases (Marseille, France). We retrospectively review the epidemiological and clinical findings of the patients.

**Results:** The median age was 47 years (range, 29-76 years); two patients were female. The reason for travel was tourism for three patients and business for one. All patients returned from South Africa,

three of them reporting a visit to rural area and an excursion to Kruger National Park and one patient a stay to Lusikinsky village. The median duration of the trip was 14 days (range, 9-15). None of them notice any tick bite during their stay. The median delay before presentation was 6 days (range, 4-9 days) after return. All patients developed fever, headache and a single necrotic eschar; three had a local lymphadenopathy and two of them had a regional lymphangitis (Figure); two had general myalgia-arthralgia; one had a mild maculopapular rash and one a neck muscle pain. The median delay between the date of return and onset of fever and appearance of eschar were 3 days (range, 2-3 days) and 1 day (range, 0-3 days), respectively. Prior to receiving the microbiological results, patients received empirical treatment with oral doxycycline 200 mg daily for 7 days. All patients reported a very quick clinical improvement within 2 days, permitting to diagnose a probable SFGR. qPCR for *R. africae* was positive on cutaneous biopsy of two patients, permitting to make a diagnosis of confirmed SFGR. All four patients had a negative serology and blood PCR for SFGR.

**Conclusions:** Prior to obtaining the microbiological results, for a traveler who reports flu-like symptoms and appearance of a necrotic eschar, on the basis of epidemiological data (journey to South Africa, walking in a game park) and of chronology of symptoms and signs (onset within the first week of return), the physician should always start empirical treatment for SFGR. African tick-bite fever remains the more probable cause of SFGR acquired in South Africa.

**Figure:** a single necrotic eschar with lymphangitis on the right leg.

