recommend (9), screening of HIV-infected patients who are sexually active with multiple partners should be conducted every 3–6 months for early detection of syphilis and initiation of proper treatment to prevent transmission and progression to late syphilis.

Acknowledgments

We thank the clinical staff at the AIDS Clinical Center (Tokyo, Japan) for assistance.

This study was supported by Grant-in-Aids for AIDS research from the Japanese Ministry of Health, Labour, and Welfare (H23-AIDS-001 and H24-AIDS-003).

References

- Clark EG, Danbolt N. The Oslo study of the natural history of untreated syphilis; an epidemiologic investigation based on a restudy of the Boeck-Bruusgaard material; a review and appraisal. J Chronic Dis. 1955;2:311–44. http://dx.doi.org/10.1016/0021-9681(55)90139-9
- Noel CB, Moeketsi K, Kies B. Cavernous sinus syndrome, an atypical presentation of tertiary syphilis: case report and review of the literature. Clin Neurol Neurosurg. 2011;113:65–7. http://dx.doi.org/10.1016/j.clineuro.2010.08.007
- Pialoux G, Vimont S, Moulignier A, Buteux M, Abraham B, Bonnard P. Effect of HIV infection on the course of syphilis. AIDS Rev. 2008;10:85–92.
- Ghanem KG, Moore RD, Rompalo AM, Erbelding EJ, Zenilman JM, Gebo KA. Lumbar puncture in HIV-infected patients with syphilis and no neurologic symptoms. Clin Infect Dis. 2009;48:816–21. http://dx.doi.org/10.1086/597096
- Castro R, Prieto ES, da Luz Martins Pereira F. Nontreponemal tests in the diagnosis of neurosyphilis: an evaluation of the Venereal Disease Research Laboratory (VDRL) and the rapid plasma reagin (RPR) tests. J Clin Lab Anal. 2008;22:257–61. http://dx.doi.org/10.1002/jcla.20254
- Fargen KM, Alvernia JE, Lin CS, Melgar M. Cerebral syphilitic gummata: a case presentation and analysis of 156 reported cases. Neurosurgery. 2009;64:568–75. http://dx.doi.org/10.1227/01. NEU.0000337079.12137.89
- Workowski KA, Bolan GA. Sexually transmitted diseases treatment guidelines, 2015. MMWR Recomm Rep. 2015;64:1–137.
- Janier M, Hegyi V, Dupin N, Unemo M, Tiplica GS, Potocnik M, et al. 2014 European guideline on the management of syphilis. J Eur Acad Dermatol Venereol. 2014;28:1581–93. http://dx.doi.org/10.1111/jdv.12734
- Kaplan JE, Benson C, Holmes KK, Brooks JT, Pau A, Masur H, et al. Guidelines for prevention and treatment of opportunistic infections in HIV-infected adults and adolescents: recommendations from CDC, the National Institutes of Health, and the HIV Medicine Association of the Infectious Diseases Society of America. MMWR Recomm Rep. 2009;58:1–207.

Address for correspondence: Takeshi Nishijima, AIDS Clinical Center, National Center for Global Health and Medicine, 1-21-1, Toyama, Shinjuku, Tokyo 162-8655, Japan; email: tnishiji@acc.ncgm.go.jp

African Tick-Bite Fever in Traveler Returning to Slovenia from Uganda

Petra Bogovic, Stanka Lotric-Furlan, Misa Korva, Tatjana Avsic-Zupanc

Author affiliations: University Medical Center Ljubljana, Ljubljana, Slovenia (P. Bogovic, S. Lotric-Furlan); Institute of Microbiology and Immunology, Ljubljana (M. Korva, T. Avsic-Zupanc)

DOI: http://dx.doi.org/10.3201/eid2210.160650

To the Editor: African tick-bite fever (ATBF) is a well known disease in travelers to sub-Saharan Africa (1). The causative agent, *Rickettsia africae*, is transmitted to humans by ticks of the genus *Amblyomma* (1,2). *R. africae* has been isolated or detected in ticks, humans, or both in 22 sub-Saharan countries (3). Most ATBF cases have been described in tourists returning from countries to which it is endemic, most often from South Africa, Zimbabwe, and Botswana (4). We report a case of ATBF in a Slovenian traveler returning from Uganda.

In June 2015, a 29-year-old Slovenian man without underlying illnesses sought care at the Department of Infectious Diseases, University Medical Centre Ljubljana (Ljubljana, Slovenia). He had a 1-day history of fever up to 38°C without chills, 5 days after returning from a 2-week trip to Uganda. He had received vaccines against yellow fever and viral hepatitis A before traveling and did not use antimalarial prophylaxis during his stay in southwestern Uganda. A day before he left Uganda, he noticed a tick bite on his left upper abdomen.

At initial examination, he appeared well. He had a temperature of 37.8°C, pulse rate 75 beats/min, and blood pressure 120/80 mm Hg. Skin examination was remarkable for a solitary papular lesion at the site of tick bite surrounded by a small erythematous halo associated with discrete lymphangitic streaking and painful enlarged left axillar lymph nodes. Results of initially performed routine laboratory tests were normal.

On day 5 of illness, the man was still febrile, with a temperature up to 39°C. Papular skin lesion had developed a dark brown crusted center (compatible with a tache noire), and some new discrete asymptomatic pale papular skin lesions appeared on his left leg and arm. Repeat laboratory testing indicated only mildly increased serum C-reactive protein (16.0 mg/L [reference <5 mg/L]).

The clinical course improved rapidly after treatment began with doxycycline. Fever resolved in 2 days, and enlarged lymph nodes and skin lesions resolved completely within 14 days.

Microbiological procedures to detect for infection with tick-transmitted pathogens were performed to elucidate the

cause of the illness. The PCR for amplification of a 470-bp fragment of citrate synthase gene was performed according to a previously published protocol (5). DNA was extracted with QIAamp DNA Mini Kit (QIAGEN, Hilden, Germany) from whole blood and the crust of the eschar collected on day 5 of illness. In addition, serum samples were tested by indirect immunofluorescent assay for specific IgG and IgM against *Francisella tularensis* and *Rickettsia* spp. (spotted fever and typhus group) 5 days and 10 weeks after onset of fever.

Diagnosis of ATBF was affirmed by positive PCR result from the crust of the eschar; further sequence analysis revealed the infection with *R. africae*. Serologic testing demonstrated seroconversion of IgG to *R. conorii* and *R. rickettsii*, which cross-reacts with *R. africae* (negative immunofluorescent assay IgG titer at initial testing and 1:1,024 for *R. conorii* and *R. rickettsii* 10 weeks later) (6). Thick and thin blood smears were negative for malaria.

ATBF is the second most well-established cause of febrile illness among travelers to sub-Saharan Africa, after malaria. Usually it manifests by fever (59%–100% of cases), headache (62%–83%), eschar (53%–100%), lymphadenopathy (43%–100%), and rash (15%–46%). The clinical and laboratory findings in the patient reported here were similar to those previously reported among *R. africae*–infected patients (*I*). In the acute phase of illness, a biopsy and culture from an eschar, as well as PCR, are the most suitable methods to confirm the ATBF diagnosis. In this case, ATBF was proven by PCR and subsequent sequencing from a crust sample but not from whole blood and seroconversion of IgG.

The first information about *R. africae* in ticks in Uganda was published in 2013 by Lorusso et al. (7), but previously *R. conorii* also was found (8). The prevalence rate of *R. africae* infection among *Amblyomma variegatum* ticks in Uganda was 97.1% (9). Recently, Proboste et al. established the presence of previously undetected tickborne pathogens in rural dogs and associated ticks in Uganda. Tick species *Haemaphysalis leachi*, *Rhipicephalus* spp., and *A. variegatum* were infected by *Rickettsia* spp. (18.9%), including *R. conorii* and *R. massiliae*; by *Ehrlichia* spp. (18.9%), including *E. chaffeensis*; and by *Anaplasma platys* (10).

Our MEDLINE literature search found no previous descriptions of human *R. africae* infection in Uganda. This case indicates that ATBF should be included as a possible diagnosis in persons with febrile illness who have traveled to Uganda, a well-known tourist destination.

References

- Jensenius M, Fournier PE, Kelly P, Myrvang B, Raoult D. African tick bite fever. Lancet Infect Dis. 2003;3:557–64. http://dx.doi.org/10.1016/S1473-3099(03)00739-4
- Kelly PJ, Beati L, Mason PR, Matthewman LA, Roux V, Raoult D. Rickettsia africae sp. nov., the etiological agent of

- African tick bite fever. Int J Syst Bacteriol. 1996;46:611–4. http://dx.doi.org/10.1099/00207713-46-2-611
- Parola P, Paddock CD, Socolovschi C, Labruna MB, Mediannikov O, Kernif T, et al. Update on tick-borne rickettsioses around the world: a geographic approach. Clin Microbiol Rev. 2013;26:657–702. http://dx.doi.org/10.1128/CMR.00032-13
- Jensenius M, Fournier PE, Vene S, Hoel T, Hasle G, Henriksen AZ, et al.; Norwegian African Tick Bite Fever Study Group. African tick bite fever in travelers to rural sub-Equatorial Africa. Clin Infect Dis. 2003;36:1411–7. http://dx.doi.org/10.1086/375083
- Roux V, Rydkina E, Eremeeva M, Raoult D. Citrate synthase gene comparison, a new tool for phylogenetic analysis, and its application for the rickettsiae. Int J Syst Bacteriol. 1997;47:252–61. http://dx.doi.org/10.1099/00207713-47-2-252
- Fournier PE, El Karkouri K, Leroy Q, Robert C, Giumelli B, Renesto P, et al. Analysis of the *Rickettsia africae* genome reveals that virulence acquisition in *Rickettsia* species may be explained by genome reduction. BMC Genomics. 2009;10:166. http://dx.doi.org/10.1186/1471-2164-10-166
- Lorusso V, Gruszka KA, Majekodunmi A, Igweh A, Welburn SC, Picozzi K. *Rickettsia africae* in *Amblyomma variegatum* ticks, Uganda and Nigeria. Emerg Infect Dis. 2013;19:1705–7. http://dx.doi.org/10.3201/eid1910.130389
- Socolovschi C, Matsumoto K, Marie JL, Davoust B, Raoult D, Parola P. Identification of rickettsiae, Uganda and Djibouti. Emerg Infect Dis. 2007;13:1508–10. http://dx.doi.org/10.3201/eid1310.070078
- Nakao R, Qiu Y, Igarashi M, Magona JW, Zhou L, Ito K, et al. High prevalence of spotted fever group rickettsiae in *Amblyomma* variegatum from Uganda and their identification using sizes of intergenic spacers. Ticks Tick Borne Dis. 2013;4:506–12. http://dx.doi.org/10.1016/j.ttbdis.2013.07.001
- Proboste T, Kalema-Zikusoka G, Altet L, Solano-Gallego L, Fernández de Mera IG, Chirife AD, et al. Infection and exposure to vector-borne pathogens in rural dogs and their ticks, Uganda. Parasit Vectors. 2015;8:306. http://dx.doi.org/10.1186/s13071-015-0919-x

Address for correspondence: Petra Bogovic, Department of Infectious Diseases, University Medical Center Ljubljana, Japljeva 2, 1525 Ljubljana, Slovenia; email: petra.bogovic@kclj.si

Polymyxin B Resistance in Carbapenem-Resistant Klebsiella pneumoniae, São Paulo, Brazil

Flávia Bartolleti, Bruna Mara Silva Seco, Carla Capuzzo dos Santos, Carolina Bragança Felipe, Mara Elisa Borsato Lemo, Tatiane da Silva Alves, Lilian F. Passadore, Marcelo J. Mimica, Suely Carlos Ferreira Sampaio, Alexandre Prehn Zavascki, Jorge Luiz Mello Sampaio

Author affiliations: University of São Paulo School of Pharmaceutical Sciences, São Paulo, Brazil (F. Bartolleti,