Outbreak of Leishmania braziliensis Cutaneous Leishmaniasis, Saül, French Guiana

To cite this version:
Guillaume Martin-Blondel, Xavier Iriart, Fouad El Baidouri, Stéphane Simon, Deborah Mills, et al.. Outbreak of Leishmania braziliensis Cutaneous Leishmaniasis, Saül, French Guiana. Emerging Infectious Diseases, Centers for Disease Control and Prevention, 2015, 21 (5), pp.892-894. 10.3201/eid2105.141181. hal-02006082

HAL Id: hal-02006082
https://hal.umontpellier.fr/hal-02006082
Submitted on 31 May 2021

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers. L’archive ouverte pluridisciplinaire HAL, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d’enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.
laboratories, so the properties associated with STEC in S. sonnei isolates from patients remain undetected. S. sonnei with stx2 may have potential to cause severe disease, especially in children. This novel and remarkable virulence characteristic in Shigella spp. would affect diagnostics, infection control, and prevention.

Acknowledgments

We thank the personnel of the Bacteriology Unit at the Finnish National Institute for Health and Welfare for their skillful technical assistance, especially Tarja Heiskanen, who is gratefully acknowledged for the detection of Shigella sonnei with the stx2 gene.

References


Address for correspondence: Outi Nyholm, Bacteriology Unit, National Institute for Health and Welfare, PO Box 30, FI-00271 Helsinki, Finland; email: outi.nyholm@thl.fi.

Outbreak of Leishmania braziliensis Cutaneous Leishmaniasis, Saül, French Guiana

Guillaume Martin-Blondel, Xavier Iriart, Fouad El Baidouri, Stéphane Simon, Deborah Mills, Magalie Demar, Thierry Pistone, Thomas Le Taillardier, Denis Malvy, Jean-Pierre Gangneux, Pierre Couppie, Wendy Munckhof, Bruno Marchou, Christophe Ravel, Antoine Berry

Author affiliations: Toulouse University Hospital, Toulouse, France (G. Martin-Blondel, X. Iriart, T. Le Taillardier, B. Marchou, A. Berry); INSERM UMR1043, Toulouse, France (G. Martin-Blondel, X. Iriart, A. Berry); French Reference Centre on Leishmaniasis, Montpellier, France (F. El Baidouri, C. Ravel); University of the French West Indies and Guiana, Cayenne, France (S. Simon); Travel Medicine Alliance, Brisbane, Queensland, Australia (D. Mills); Cayenne Hospital, Cayenne (M. Demar, P. Couppie); Bordeaux University Hospital, Bordeaux, France (T. Pistone, D. Malvy); Rennes University Hospital, Rennes, France (J.-P. Gangneux); University of Queensland, Brisbane (W. Munckhof)

DOI: http://dx.doi.org/10.3201/eid2105.141181

To the Editor: New World cutaneous leishmaniasis (CL), a zoonotic disease, is increasingly seen among travelers returning from Latin American countries, particularly from Bolivia, Belize, and French Guiana (J). The
The epidemiology of CL in the Americas is heterogeneous and has complex variations in transmission cycles, reservoir hosts, and sandfly vectors. Changing human activities that affect these factors may have resulted in the emergence of species with distinct pathogenic potentials and responses to therapy. In the Guianan ecoregion complex, leishmaniasis is endemic, and 5 coexisting Leishmania parasite species are known to infect humans: *L. guyanensis*, *L. braziliensis*, *L. amazonensis*, *L. naiffi*, and *L. lainsoni*. Among these species, *L. guyanensis* accounts for ≈85% of CL cases (2).

We report an outbreak of 7 cases of *L. braziliensis* CL that occurred among 24 scientists who participated in a field mission at Limonade Creek in Saül, French Guiana, during October 10–25, 2013. Saül is an isolated village in the Amazonian rainforest (3°55′18″N, 53°18′02″W).

Among the 7 patients, 6 were male; mean age was 32 ± 5 years. None of the patients were immunocompromised. The scientists stayed in Saül a mean of 17 (range 12–30) days. The mean time to symptom onset after they left Saül was 19 (range 0–50) days. The mean number of CL lesions was 2.3 (range 1–5). Lesions were localized mainly on lower limbs (11/14 lesions) but also appeared on upper limbs (2/14 lesions) and ears (1/14 lesions). CL was associated with nodular lymphangitis, adenitis, and superficial phlebitis of the affected limb in 2, 3, and 1 patient, respectively. No patients had mucosal involvement, fever, or decline in general health.

Diagnosis of CL was clinically suggested and confirmed by microscope examination of skin scrapings, which revealed typical amastigotes, by a positive Leishmania species–specific PCR result, or both. *L. braziliensis* complex was diagnosed by using different molecular techniques, according to the laboratory, and then confirmation of *L. braziliensis* species was conducted by the French National Reference Center for Leishmaniasis on the basis of a putative translation initiation factor a-subunit gene sequence (3). Leishmania strain genotyping was performed to explore the epidemiology of the implicated strains. Four single-copy genomic loci were amplified from 5 of 7 patient samples; 1 of the samples had a parasite DNA content that was too low to genotype, and 1 was not analyzed. The genetic analysis of the 4 concatenated sequences showed 5 distinct and nonclustered genotypes (Figure). According to local protocols, patients were treated with 20 mg/kg of intramuscular meglumine antimoniate or with 18–38 mg/kg of intravenous liposomal amphotericin B; at publication time, the patients were still being followed.

This outbreak of *L. braziliensis* CL in French Guiana raises the question of an overall increase in the incidence of this Leishmania species. Until now, outbreaks of *L. braziliensis* infection have been observed in Argentina, Brazil, Panama, and Venezuela but not Guiana (5–7). In French Guiana, changes in the epidemiology of CL have been observed since 2006; the emergence of *L. braziliensis*, *L. amazonensis*, and *L. lainsoni* infections represented 8.8%,
2.6%, and 1.4%, respectively, of the diagnosed CL cases (8). This trend could be due either to an increase of *L. braziliensis* prevalence in the forests of Guiana or to a greater presence of humans (e.g., military personnel, scientists, and tourists) in deep forest areas with hot spots of transmission. Favorable environmental conditions in a well-delimited zoonotic microfocus hot spot might have contributed to this high rate of transmission. However the relative genetic diversity of strains we observed among the 5 analyzed patients was unexpected, given the relatively small spatial and temporal scale of the transmission area, and indicates that the reservoirs in this restricted area were infested by distinct genotypes. Development of a peridomestic cycle, perhaps with specific reservoirs (pets) and vectors, cannot be excluded in the Saül area.

This case series suggests that caution should be taken in the diagnosis and treatment of CL in patients returning from the Amazonian rainforest, and a species-specific approach based on molecular identification should be proposed to provide appropriate medical management (9). Indeed, although *L. braziliensis* parasites cause <10% of CL acquired in French Guiana, this species is noteworthy for its involvement of the mucous membranes of the lips, nose, soft palate, or larynx. Also, *L. braziliensis* parasites usually fail to respond to pentamidine isethionate, the first-line treatment of *L. guyanensis* CL in French Guiana; instead, treatment of *L. braziliensis* infection relies on parenteral meglumine antimoniate or liposomal amphotericin B (1).

In summary, the geographic extension of and numeric increase in *L. braziliensis* cases in the Guiana ecoregion complex, as observed in the rest of South America, are worrisome, and continuous epidemiologic surveillance is needed. Infection with *L. braziliensis*, which is emerging and has potential to disseminate, must be considered in cases of CL acquired in this region. These issues have key implications for leishmaniasis treatment, which should be directed to the identified species (10).

Acknowledgement

We thank all the patients who actively participated in this study.

References


Address for correspondence: Antoine Berry, Department of Parasitology, Toulouse University Hospital, Place du Docteur Baylac TSA 40031, 31059 Toulouse CEDEX 9, France; email: berry.a@chu-toulouse.fr

**Ciprofloxacin-Resistant Shigella sonnei Associated with Travel to India**

**Niall De Lappe, Jean O’Connor, Patricia Garvey, Paul McKeown, Martin Cormican**

Author affiliations: University Hospital Galway, Galway, Ireland (N. De Lappe, J. O’Connor, M. Cormican); Health Protection Surveillance Centre, Dublin, Ireland (P. Garvey, P. McKeown)

DOI: http://dx.doi.org/10.3201/eid2105.141184

**To the Editor:** Shigellosis is an uncommon infection in many industrialized countries, and many cases are linked to travel to *Shigella* spp.–endemic countries. The epidemiology of *Shigella* infections in developing countries is changing. *S. sonnei* seems to be replacing the more antigenically diverse *S. flexneri* in regions undergoing economic development and improvements in water quality (1).

In 2012, a total of 29 cases of shigellosis were reported in Ireland through the Computerized Infectious Disease Reporting system (crude incidence rate 0.63 cases/100,000 population). Isolates from 20 (69%) of those 29 cases were submitted to the National Reference Laboratory in Galway, Ireland, for additional typing. In 2013, a total of 43 isolates...