

# Tropical parasitic diseases and immunosuppression

**E. Bottieau**

Department of Clinical Sciences, Institute of Tropical Medicine, Antwerp, Belgium

E-mail: [ebottieau@itg.be](mailto:ebottieau@itg.be)

Article published online: 15 February 2014

Despite substantial progress in control in endemic settings, tropical parasitic diseases such as malaria, leishmaniasis and American trypanosomiasis (Chagas disease) continue to affect millions of people worldwide [1–3]. In addition to representing a long-lasting burden in tropical countries, in recent decades these conditions have become a challenge for clinicians in non-endemic settings, as a result of increasing travel and migration [4–6]. Finally, the increasing number of immunocompromised individuals in tropical environments—international travellers or local populations of emerging economies with immunosuppressive conditions or treatment—makes the global picture even more complex [7,8]. Indeed, the multiple and reciprocal interactions between parasites and immunity are still to be fully elucidated, and the impact of immunosuppression not only on infection rate and clinical presentation, but also on the management and even global epidemiology of parasitic diseases, is being better recognized, with the specific issue of drug–drug interactions increasingly addressed in recent research.

This themed issue of *Clinical Microbiology and Infection* is aimed at appraising the current knowledge and newly identified gaps in the epidemiology and management of three major tropical parasitic diseases among immunosuppressed individuals. First, although malaria may seem to be less associated with immunosuppression (except in patients with asplenia [9]), Van Geertruyden describes the multiple, complex and mutual epidemiological and clinical interactions between this condition and the human immunodeficiency virus (HIV) epidemic in sub-Saharan Africa (Van Geertruyden, *Clin Microbiol Infect*, April 2014), as it has been also observed in HIV-infected travellers [10,11]. In the second article, van Griensven *et al.* comprehensively review the clinical and therapeutic impact of various immunosuppressive conditions on leishmaniasis in different epidemiological contexts, such as HIV infection in East Africa or immunomodulating agents in Europe (van Griensven *et al.*, *Clin Microbiol Infect*, April 2014). Finally, Lattes and Lasala share their experience in preventing and treating Chagas disease in the

growing population of South American immunosuppressed individuals (Lattes and Lasala, *Clin Microbiol Infect*, April 2014). Hopefully, readers will become aware that the recent trends in mobility, aging and susceptibility of the global population open new challenging chapters in the long history of human–parasite confrontation.

## Transparency Declaration

The author has no conflict of interest related to the present article.

## References

1. Alvar J, Velez ID, Bern C *et al.* Leishmaniasis worldwide and global estimates of its incidence. *PLoS One* 2012; 7: e35671
2. Lescure FX, Le Loup G, Freilij H *et al.* Chagas disease: changes in knowledge and management. *Lancet Infect Dis* 2010; 10: 556–570.
3. Murray CJ, Rosenfeld LC, Lim SS *et al.* Global malaria mortality between 1980 and 2010: a systematic analysis. *Lancet* 2012; 379: 413–431.
4. Bottieau E, Vekemans M, Van Gompel A. Therapy of vector-borne protozoan infections in nonendemic settings. *Expert Rev Anti Infect Ther* 2011; 9: 583–608.
5. Gascon J, Bern C, Pinazo MJ. Chagas disease in Spain, the United States and other non-endemic countries. *Acta Trop* 2010; 115: 22–27.
6. Leder K, Torresi J, Libman MD *et al.* GeoSentinel surveillance of illness in returned travelers 2007–2011. *Ann Intern Med* 2013; 158: 456–468.
7. Antinori S, Cascio A, Parravicini C, Bianchi R, Corbellino M. Leishmaniasis among organ transplant recipients. *Lancet Infect Dis* 2008; 8: 191–199.
8. Pinazo MJ, Espinosa G, Cortes-Lletget C *et al.* Immunosuppression and Chagas disease: a management challenge. *PLoS Negl Trop Dis* 2013; 7: e1965.
9. Davidson RN, Wall RA. Prevention and management of infections in patients without a spleen. *Clin Microbiol Infect* 2001; 7: 657–660.
10. Bottieau E, Florence E, Clerinx J *et al.* Fever after a stay in the tropics: clinical spectrum and outcome in HIV-infected travelers and migrants. *J Acquir Immune Defic Syndr* 2008; 48: 547–552.
11. Mouala C, Guiguet M, Houze S *et al.* Impact of HIV infection on severity of imported malaria is restricted to patients with CD4 cell counts < 350 cells/microl. *AIDS* 2009; 23: 1997–2004.