Eight years of tracking and treating severe malaria in Europe

Florian Kurth
Michel Develoux
Matthieu Mechain
Denis Malvy
Jan Clerinx
Spinello Antinori
Ida E. Gjørup
Joaquín Gascon
Kristine Mørch
Emanuele Nicastrì
Michael Ramharter
Alessandro Bartoloni
Leo Visser
Thierry Rolling
Philipp Zanger
Guido Calleri
Joaquín Salas-Coronas
Henrik Nielsen
Gudrun Just-Nübling
Andreas Neumayr
Anna Hachfeld
Matthias L. Schmid
Pietro Antonini
Tilman Lingscheid
Peter Kern
Annette Kapaun
José Saraiva da Cunha
Peter Pongratz
Antoni Soriano-Arandes
Mirjam Schunk
Norbert Suttorp
Christoph Hatz
Thomas Zoller

Video Abstract

Keywords: malaria, severe malaria, clinical study, Europe, quinine, artesunate, plasmodium falciparum, European Network for Tropical Medicine and Travel Health, TropNet, travel risk, observational study, travelers' health, anti-malarial chemoprophylaxis, hyperparasitemia, adverse drug reaction, post-artemisinin delayed hemolysis, malaria prevention, tropical medicine, semi-immunity, acquired partial immunity

Posted Date: September 20th, 2019

DOI: <https://doi.org/10.21203/rs.2.15116/v1>

License: This work is licensed under a Creative Commons Attribution 4.0 International License.

[Read Full License](#)

Abstract

Even though Europe is far from malarial hot spots, doctors there still have to treat travelers who contract the disease while on holiday or business trips. And because Europeans aren't exposed to malaria on a regular basis, if they do become infected with the parasites, they're more likely to develop a severe case. To keep tabs on how malaria is treated across 12 European countries, the European Network for Tropical Medicine and Travel Health, or TropNet, regularly collects data. Now, a report on all of its severe malaria cases between 2006 and 2014 offers an unprecedented look at malaria treatment across the continent. Over the 8-year period, epidemiologists counted 185 cases of severe malaria in the network, primarily following visits to West or central Africa. The outcome was good for the vast majority of patients: 98.4 percent survived. But there was a lot of variation in how people were treated. Hospitals used 56 different drug combinations. In the beginning of the study period, quinine was the most popular drug, but artesunate – the recommended option – surpassed it by 2014. As Europe's demographics have changed, so too has its malaria profile. In the past, nearly all cases of malaria were seen in tourists or business travelers. But now, 30 percent of patients are immigrants who catch the disease when visiting friends and family in their former homelands. This is an important finding, as it suggests that many immigrants are not aware that any acquired immunity protecting them from severe malaria wanes the longer they live outside endemic areas. The results suggest that Europeans would benefit from evidence-based guidelines to make treatment more consistent. Although artesunate is not yet licensed for treatment in Europe, it is the more effective option for severe malaria, and its increased use may be contributing to high survival rates. Patients treated with artesunate, however, should be carefully followed, as late haemolytic reactions occur in one out of four people. Finally, only 10 percent of patients had taken drugs to prevent malaria prior to their trips and few of those took all tablets as prescribed. More people may be able to avoid complicated cases of malaria by properly taking prophylactic drugs when traveling.