

Letter to Editor

Asian Pacific Journal of Tropical Medicine

apjtm.org

doi: 10.4103/apjtm.apjtm_33_25

Epidemiological and clinical features of severe imported *Plasmodium falciparum* malaria among travelers upon hospital admission

Emerole Karl[1]✉, Tokmalaev Anatoly[1], Chentsov Vladimir[2], Mvuania Vellynance[1]

[1]*RUDN University, Moscow, Russian Federation*

[2]*Infectious Diseases Clinical Hospital N 2, Moscow, Russian Federation*

Malaria is considered one of the major causes of travel-related morbidity and mortality, especially among non-immune travelers from non-endemic countries to the endemic regions. According to a multicenter study from the GeoSentinel surveillance network, malaria was the most frequent cause of fever in 21% of returning travelers, followed by dengue, typhoid fever, chikungunya and rickettsiosis[1]. Individuals traveling from regions without malaria transmission to areas where it is endemic face a heightened risk of contracting the disease due to their lack of immunity. Despite the official malaria-free status of the Russian Federation since 2010, annual cases of severe *Plasmodium* (*P.*) *falciparum* malaria continue to be reported[2]. This underscores the necessity for heightened clinical vigilance and improved preventive strategies especially in non-endemic settings.

We retrospectively reviewed medical records of 32 patients diagnosed with severe imported *Plasmodium falciparum* malaria at the Infectious Diseases State Hospital No.2 in Moscow from 2020 to 2023. All cases fulfilled the World Health Organization's criteria for severe malaria[3]. The median age was 38 years (IQR 30-48), and 89% were male. Notably, none of the patients had taken malaria chemoprophylaxis prior to travel-a trend that is known to increase the risk of mortality in non-immune individuals[4,5].

Nearly all infections were acquired in sub-Saharan Africa. Median time from symptom onset to hospital admission was five days (IQR 4.2-6.8). Clinical findings at admission revealed hyperparasitemia in 99% of patients, impaired consciousness in 98%, prostration in 78%, and jaundice in 52%-each reflecting hallmark features of severe malaria. The most common misdiagnoses at presentation included unspecified viral infections and gastroenteritis, indicating a gap in malaria recognition at outpatient care or pre-hospital admission level. Figure 1 illustrates the temporal onset of severe symptoms post-admission.

32 patients were admitted, 28 (89%) of them were male. The median age were 38 (30-48) years. None of them used chemoprophylaxis. The median time from symptom to admission was 5 (4.2-6.8) days. The most common symptoms were impaired consciousness (98.0%), fever (96.5%), prostration (78.1%), and jaundice (52.0%).

The absence of chemoprophylaxis, delays in seeking care, and diagnostic challenges likely contributed to the high burden of complications. Our findings support calls for enhanced pre-travel counseling, more rapid diagnostic approaches in febrile returnees, and clinician training in non-endemic areas[6–8].

Conflict of interest statement

The authors declare that they have no conflict of interest.

✉To whom correspondence may be addressed. E-mail: emerole_k@pfur.ru

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-Non Commercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

For reprints contact: reprints@medknow.com

©2025 *Asian Pacific Journal of Tropical Medicine* Produced by Wolters Kluwer-Medknow.

How to cite this article: Karl E, Anatoly T, Vladimir C, Vellynance M. Epidemiological and clinical features of severe imported *Plasmodium falciparum* malaria among travelers upon hospital admission. Asian Pac J Trop Med 2025; 18(10): 475-476.

Article history: Received 14 January 2025 Revision 5 June 2025
Accepted 10 June 2025 Available online 2 September 2025

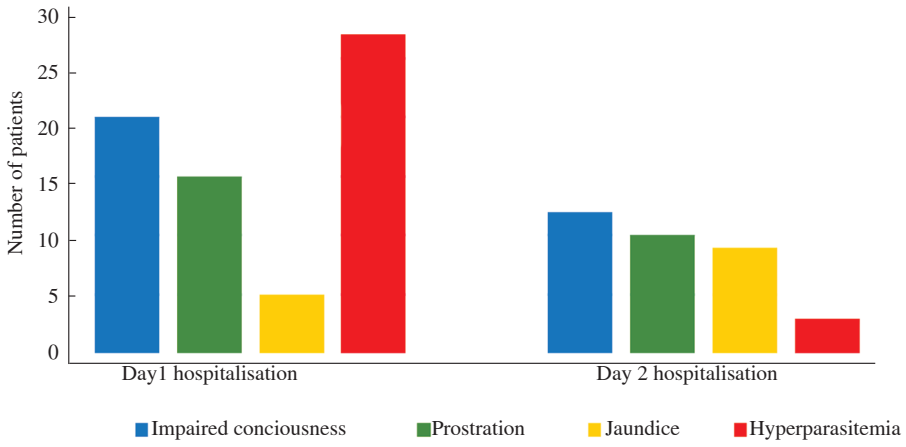

Figure 1. Timeframe of severe *Plasmodium falciparum* malaria manifestation upon hospital admission.

Patients' consent to participate

All patients had previously signed consent for their anonymized data to be used for research purposes.

Funding

The authors received no extramural funding for the study.

Authors' contributions

EK, TA, CV, MV developed the theoretical formalism, performed the analytic calculations and performed the numerical simulations. EK, TA, CV, MV contributed to the final version of the manuscript. EK supervised the project.

References

[1] Leder K, Torresi J, Libman MD, Cramer JP, Castelli F, Schlagenhauf P, et al. GeoSentinel surveillance of illness in returned travelers, 2007-2011. *Ann Intern Med* 2013; **158**: 456-468.

[2] Baranova AM, Guzeeva TM, Morozova LF. Death cases from tropical malaria in Russia. *Med Parasitol* 2015; **3**: 50-52.

[3] WHO. *Management of severe malaria: A practical handbook, 3rd ed. 2012*. [Online]. Available from: https://www.who.int/publications/i/item/9789241548526. [Accessed on 14 January 2025].

[4] Krause G, Schöneberg I, Altmann D, Stark K. Chemoprophylaxis and malaria death rates. *Emerg Infect Dis* 2006; **12**(3): 447-451.

[5] Mousa A, Al-Taiar A, Anstey NM, Badaut C, Barber BE, Bassat Q, et al. The impact of delayed treatment of uncomplicated *P. falciparum* malaria on progression to severe malaria: A systematic review and a pooled multicentre individual-patient meta-analysis. *PLoS Med* 2020; **17**(10): e1003359. doi: 10.1371/journal.pmed.1003359.

[6] WHO. *World malaria report 2021*. [Online]. Available from: https://www.who.int/teams/global-malaria-programme/reports/world-malaria-report-2021#:~:text=The%202021%20report%20is%20based%20on%20information%20received,on%20global%20and%20regional%20malaria%20data%20and%20trends. [Accessed on 14 January 2025].

[7] Tokmalaev AK, Chentsov V, Emerole K, Kozhevnikova GM, Baranova AM, Vdovina ET, et al. Management of severe Plasmodium falciparum malaria in adults. A review of national and regional guidelines and their adherence to WHO guidelines. *Epidemiol Infect Dis* 2023; **28**(4). doi:10.17816/EID352528.

[8] Antinori S, Giacomelli A, Casalini G, Ridolfo AL. How to manage adult patients with malaria in the non-endemic setting. *Clin Microbiol Infect* 2024; **30**(11): 1374-1383.

Publisher's note

The Publisher of the *Journal* remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Edited by Pan Y, Lei Y, Zhang Q