Spleen Infarction in Plasmodium Infection

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Dear Editor,

Malaria is a zoonosis causing public health problems, and more than 600,000 deaths yearly mainly younger; splenic infarction or rupture are rarely described [1-5]. These life-threatening complications may evolve unsuspectedly, mainly in infections by *Plasmodium vivax*, which is considered the agent in more benign courses of malaria; nevertheless, it was the major etiology of the majority reviewed splenic infarctions [1, 2]. The possibility of underdiagnosis conundrums can increase in cases of patients from non-endemic areas who had the antecedent of travel for some endemic regions of malaria; and association with well-known causes of splenic infarctions, as COVID-19 infection [3, 5]. In this setting, one should highlight the recent case study published in this journal of a 26-year-old woman with acute high fever, hepatosplenomegaly, and P. vivax positive, and who was treated by parenteral artesunate with a good response after a 3-day course [2]. Abdominal images showed mild splenomegaly, multiple splenic infarctions, and spontaneous rupture, which evolved with satisfactory resolution during her follow-up [2].

The aim of the following comments on some novel references about splenic infarction during an active phase of malaria is to emphasize the awareness and increase the suspicion index of non-specialists about the infarctions and or rupture of the spleen [1, 3-5]. A 22-year-old man presented with acute left hypochondrium pain and intermittent fever six months after his trip to Pakistan, which was his home country, and the abdominal images revealed free fluid within the cavity; besides the collapsed inferior vena cava, there was spontaneous splenic rupture with multiple infarcts, and hemoperitoneum [1]. As the blood smear confirmed the diagnosis of malaria vivax, he underwent intravenous artesunate followed by primaquine for two weeks [1]. A 35-year-old Iranian man was diagnosed with concomitant COVID-19 and malaria; he came from Sierra Leone where malaria and typhoid fever were treated 2 months ago [3]. He had severe left upper abdominal pain and image studies showed splenomegaly with areas of splenic infarction, and the treatment was artemether, lumefantrine, and heparin due to co-infection of COVID-19 with a disease that may present thrombotic events [3]. The patient evolved with stable hemodynamic status and did not need emergency surgery; malarial trophozoites were not observed on the peripheral blood smear post-treatment [3]. A 30-year-old man with the diagnosis of *P. falciparum* infection underwent artemether-lumefantrine, and presented with upper left abdominal pain; the abdominal images revealed splenomegaly with a hypoechoic lesion confirmed as a splenic infarction [4]. The authors stressed that this finding is not often described as a complication of malaria, probably due to underdiagnosis, but must be included in the causes of poor outcomes [4]. A male patient reported traveling to South Korea and Guinea Conakry without anti-malarial chemoprophylaxis and presented high fever and syncope, diagnosed as *P. ovale* malaria with splenic infarction and respiratory distress syndrome, responsive to chloroquine [5]. *P. ovale* often causes benign disease, although fatal cases may occur even in immunocompetent individuals; however, one estimates that a unique case of splenic infarction was previously reported [5]. The role of differential diagnoses included infections by *Escherichia coli*, *Campylobacter*, *Yersinia*, *Salmonella*, *Shigella*, Chikungunya, Dengue, Viral hepatitis; besides Amebiasis, Giardiasis, Leishmaniosis, and Schistosomosis, among others that were also discarded [5].

The authors emphasized prompt diagnosis, besides antimalarial schedule and appropriate clinical or interventional management for poorer outcomes reduction.

CONFLICT OF INTEREST

The authors declare no Conflict of Interest.

ACKNOWLEDGEMENTS

Declared none.

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Received: December 07, 2024; Revised: February 18, 2025; Accepted: March 04, 2025
DOI: https://doi.org/10.37184/lnjpc.2707-3521.7.48