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Scientific letter

Malaria in Spain: Is it possible to return as an indigenous disease?



Malaria en España: ¿es posible su regreso como enfermedad autóctona?

Malaria is a disease that affects millions of people across the world. It is endemic in more than 90 countries, representing 40% of the world's population, with 90% of cases occurring in Africa.¹ In 2021, there were an estimated 240 million cases worldwide, with a total of 619,000 deaths. Although the World Health Organisation declared the European zone free of malaria in 2015, the incidence has continued to increase over the years.² It is the imported disease with the highest number of cases in Spain, around 800 annually, with *Plasmodium falciparum* being the most frequently diagnosed.³ This is due to the increase in immigration and travel to endemic countries for different reasons such as cooperation, tourism and the temporary return of immigrants who, after a period of time living in Europe, visit relatives (Visiting Friends and Relatives [VFR]). Malaria can be caused by five different species of the genus *Plasmodium* sp., transmitted by the bite of the female *Anopheles* mosquito.¹ In the case of *P. falciparum* the incubation period is usually from one to six months.

However, in several European countries, including Spain, cases of *P. falciparum* infection have been published in Africans living in Europe, with no history of recent travel to endemic areas.⁴ We present a case of *P. falciparum* malaria in a patient from Africa with no history of recent travel to her country in the previous 10 years.

This was a 29-year-old woman from Equatorial Guinea, living in Spain for 10 years, with a history of hypertension, type 2 diabetes mellitus, hypertrophic cardiomyopathy and stage 3 chronic kidney disease due to idiopathic focal and segmental glomerulosclerosis. She went to Accident and Emergency with weakness and pain in her lower limbs which had been going on for several months. The physical examination was unremarkable and no focal neurological signs were detected. Blood tests showed a marked elevation of acute phase reactants with a C-reactive protein of 264.3 mg/L and procalcitonin 10.70 ng/mL, and complete blood count detected haemolytic anaemia and thrombocytopenia. A peripheral blood smear was performed by haematology, revealing ringed images in red blood cells compatible with *Plasmodium* sp. With these findings, immunochromatography was performed along with smears and thick blood films, as well as blood PCR, which confirmed the diagnosis of *P. falciparum* malaria. The patient was started on treatment with Eurartesim for three days, showing progressive improvement with resolution of her clinical condition.

Revisiting the patient's history, she denied any travel in the last 10 years and had no previous hospital admissions or visits to Accident and Emergency.

Malaria was present in Spain until 1964, when the eradication certificate was obtained. Today in Spain, *Anopheles atroparvus* still remains and is considered the most effective vector of malaria transmission in this country; it is capable of transmitting *P. vivax* but refractory to *P. falciparum*, cases of which have been seen involving autochthonous transmission.⁵

Cases of asymptomatic malaria due to *P. falciparum* in immigrant patients from countries with malaria are not uncommon. The prevalence in Spain of submicroscopic malaria in asymptomatic immigrants is 5–9%. This is common in both immigrants and VFR due to their relative immunity to continuous exposure to infection.⁶ This could lead to a public health problem and be involved in cycles of autochthonous transmission, with these people acting as reservoirs capable of reintroducing the agent in places where it was previously eradicated.⁷ In other hospitals or health areas in which exhaustive screening of both symptomatic and asymptomatic immigrant populations is carried out, a prevalence of up to 14.6% has been found. This plays a very important role in terms of transmission in endemic countries, by acting as a reservoir, so a similar role could not be ruled out in non-endemic areas, possibly contributing to its introduction into the environment.⁸

In Spain, isolated cases of *P. falciparum* malaria have been found in patients without any travel history in recent years. It is generally agreed that these are cases of patients from endemic areas who emigrated in the last 10 years.^{4,5,9} One possibility considered in these cases is that a local anopheline occasionally becomes a vector, but the most likely thing is the progressive decrease in the partial immunity to the pathogen that these patients usually have, giving rise to a chronic latent infection which ends up becoming manifest at a given moment.⁴

As a final conclusion, we would highlight the importance of proper screening for this disease in asymptomatic immigrants from these areas, in order to prevent its subsequent development and possible reintroduction in our setting. Moreover, we have to take into account that this disease can even develop a number of years after having travelled to an endemic area; hence the added importance of carrying out effective screening of the population.

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Conflicts of interest

There is no conflict of interest in the preparation of this article.

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