LETTERS TO THE EDITOR


Plasmodium knowlesi: An Important Yet Overlooked Human Malaria Parasite

To the Editor: In the May 2009 issue of Mayo Clinic Proceedings, Reyburn and Virk1 reported a case of a young woman who had visited West Africa and presented with fever and jaundice. The authors did not mention the fifth human malaria parasite Plasmodium knowlesi, which like P falciparum, causes life-threatening illness.2 Although currently P knowlesi has been reported only from Southeast Asia3 and like P vivax needs the Duffy antigen,4 which is not found in people in West Africa,5 clinicians must keep in mind a broad differential diagnosis. P knowlesi is transmitted from human to human or from the macaque monkeys (Old World monkey) via the Anopheles leucosphyrus species of mosquitoes. To date, P knowlesi has not been reported in West Africa. Ciucă et al6 found that P knowlesi does not sequester substantially in the microcirculation like P falciparum, and once high parasitemia is achieved, the monkey’s death is secondary to rapidly developing anemia, jaundice, and renal failure, all of which are features of severe P falciparum malaria in adults. P knowlesi is currently identified only by polymerase chain reaction-based techniques; by light microscopy, it is falsely reported as P malariae, P vivax, or P falciparum.7 A detailed history of a patient’s recent travel to Southeast Asia should be obtained to rule out P knowlesi.

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In reply: We thank Yegneswaran et al for highlighting the fact that the primate malaria Plasmodium knowlesi has gained prominence during the past few years as an emerging species that causes clinical human infections in Southeast Asia.8 Other primate malaria species, such as P simium, P brasili–anum, P cynomolgi, and P inui, have infrequently caused human infections as well. Thus far, P knowlesi infections have been reported only from China, Indonesia, Thailand, Myanmar, Malaysia (peninsular and Borneo), and the Palawan Island in the Philippines. There has been 1 imported case from Southeast Asia in the United States; however, there are no known cases of P knowlesi from Africa where the patient resided. Diagnosis of P knowlesi is based on geographic area of acquisition of malaria, clinical presentation, and microscopic findings. Clinically, patients with P knowlesi present with symptoms similar to those in patients with P falciparum, but microscopic findings are easily confused with those associated with P malariae. This disconnect in clinical picture and microscopy with acquisition of malaria from Southeast Asia is the clinical diagnostic clue for P knowlesi infection. Polymerase chain reaction is the only accurate technique for making a definitive diagnosis of P knowlesi infection. Treatment is similar to that for P falciparum; both of these infections are associated with high parasitemia and possibility of mortality.

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