

An Atypical Presentation of Malaria in a 19-year-old Woman

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We describe an atypical presentation of malaria, in which a 19-year-old female presents with symptoms of meningitis more than one year since travel to a malaria-endemic.

This patient presented with severe occipital headache for three days. She also reported photophobia, subjective fevers, chills, rigors, and fatigue. Patient's only travel history was immigrating to the US from Nigeria one year ago. Patient was found to be febrile and tachycardic with no nuchal rigidity. Further workup was significant for malaria smear positive for *Plasmodium vivax/ovale* with 0.4% parasitemia and rapid malaria test, BinaxNOW (Abbott), positive for *P. vivax/ovale/malariae*. Patient was treated with atovaquone-proguanil 250mg/100mg for four days. On day four, patient's repeat BinaxNOW was negative. Patient was discharged and lost to follow-up.

Malaria is endemic in Nigeria; however, the majority of cases of malaria are caused by *P. falciparum*. Finding the malaria smear and BinaxNOW positive for non-*falciparum* species was therefore unexpected, especially since the patient has no other travel history.

Moreover, *P. ovale* and *P. vivax* are unique from *P. falciparum* in that they can become dormant in the liver as hypnozoites. This can delay the proliferation of the parasite in the liver for months, which can lead to relapses of malaria weeks or years after the primary attack. There is a form of *P. vivax* that is also known to have a long-latency period of nine months from inoculation or a two-week time interval between inoculation and primary attack followed by a relapse interval of around nine months. This patient's presentation occurred around one year after her last probable exposure to malaria.

In unusual cases, timely identification of disease through comprehensive travel history, proper molecular testing, and awareness of epidemiology of *Plasmodium* species is essential for appropriate pharmacologic management and avoidance of fatal complications and relapses.