Am. J. Trop. Med. Hyg., 100(2), 2019, pp. 233–234
doi:10.4269/ajtmh.18-0592
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Images in Clinical Tropical Medicine

Plasmodium malariae—Repeat Light Microscopy when Molecular Testing is Not Available

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A 31-year-old previously healthy male required hospital admission after returning from rural Cameroon 10 weeks prior with severe myalgia, chills, 72 hours cyclical fever to 103.1°F, and tachycardia for 2 weeks. He endorsed adherence to atovoquone/proguanil chemoprophylaxis and recalled no exposure to lake or stream water. He was ill appearing, but without focal abnormalities. Laboratory findings were significant for leukopenia 2,900 cells/uL, thrombocytopenia 82,000 cells/uL, aspartate aminotranferase 316 units/L, and alanine aminotransferase 400 units/L. Initial three light microscopy (LM) and rapid diagnostic test (RDT) with BinaxNOW (Alere, Inc., Waltham, MA) were negative. However, continued investigation eventually revealed *Plasmodium malariae* on the fourth LM in its pathognomonic "rosette" schizont (Figure 1) and "band"–developing gametocyte (Figure 2).[1] The patient was treated effectively with artemether/lumefantrine. *Plasmodium malariae* infections were once considered a rare and mild illness largely because of poor sensitivity on RDT and LM.[1–3] However, recent improvement in polymerase chain reaction (PCR) technique increased the identification of *P. malariae* that might have been misdiagnosed as fever of unknown origin.[3–5] Although there were reports of late onset and recrudescent fever despite adherent chemoprophylaxis, subsequent treatment has been paradoxically successful with the same medication.[3,5,6] Because of *P. malariae*'s long senescent periods, recrudescent ability, and low parasite burden, clinicians must have high clinical suspicion and consider repeating LM when resource is limited or using PCR for diagnosis.[7]

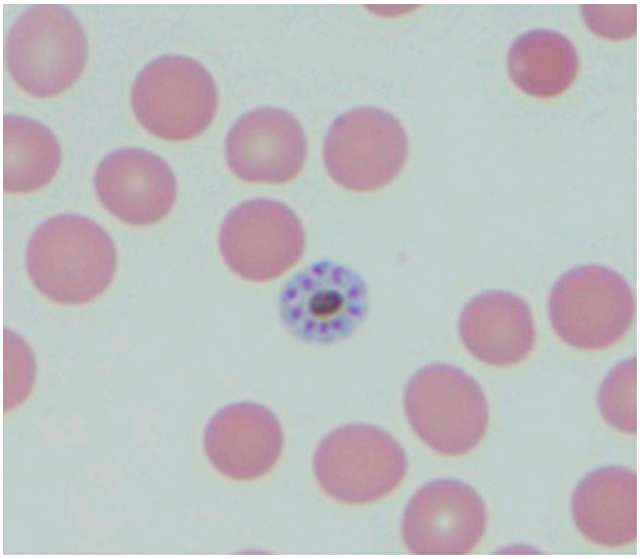

FIGURE 1. "Rosette" schizont. This figure appears in color at www.ajtmh.org.

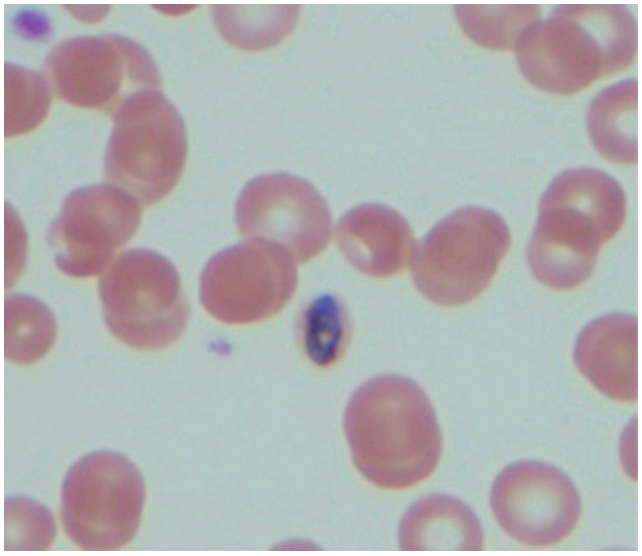

FIGURE 2. "Band"–developing gametocyte. This figure appears in color at www.ajtmh.org.

Received July 18, 2018. Accepted for publication September 12, 2018.

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