A 42-Year-Old Woman with Fever after a Trip to Africa
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CASE DESCRIPTION
A 42-year-old woman was admitted with fever. Two weeks prior, she had returned from a 1-month stay in the Comoros archipelago (islands situated to the east of Mozambique), during which she had not taken antimalarial prophylaxis. Her medical history included a total splenectomy during surgery for a gastrointestinal stromal tumor 2 years before. A thin smear of blood revealed the findings seen in Fig. 1 (highlighted by arrows), and test results for histidine-rich protein 2 (HRP-2) antigen were positive.

QUESTIONS
1. What is the diagnosis?
2. Can you explain the unusual presence of the different parasitic forms on the smear?
3. What effect does splenectomy have on the follow-up of such patients?

The answers are on the next page.
This patient had *Plasmodium falciparum* infection. The peripheral blood smear shows intracellular parasites typical of *P. falciparum* (trophozoite, red arrow in Fig. 1), the presence of which is confirmed by positivity for HRP-2 antigen. The forms shown in Fig. 1 include a late asexual form (schizont, dotted arrow) and an early gametocyte (black arrow), mature forms not usually seen in the peripheral blood. The spleen plays a central role in the host’s defense against malaria by mediating the immune response and by clearing both malaria-parasitized red blood cells and mature developmental stages of the parasite. The usually sequestered late asexual and early sexual parasite stages are observed in the peripheral blood of asplenic patients (1). Because parasite clearance is prolonged, blood smears are likely to remain positive for a prolonged period, although the parasites are dead. An observation of failure of an asplenic patient to clear parasitemia that is based solely on a peripheral smear should not be presumed to indicate resistance to antimalarial drugs (2).

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References

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