Answer to Photo Quiz: Pseudothrombocytosis Secondary to Chagas Parasitemia

(See page 1 in this issue [[doi:10.1128/JCM.00696-12](https://doi.org/10.1128/JCM.00696-12)] for photo quiz case presentation)

Guido R. González-Fontal,^a Myriam B. Amaya-Bernal,^a Andrés F. Henao-Martínez^b

Division of Hemato-Oncology, Department of Medicine, Universidad Militar Nueva Granada, Bogotá, Colombia^a; Division of Infectious Diseases, Department of Medicine, University of Colorado Denver, Denver, Colorado, USA^b

Manual counting of platelets in the blood smear of the patient revealed a normal number of platelets, 210×10^9 platelets/liter; however, this examination also confirmed the presence of trypomastigotes forms of *Trypanosoma cruzi*. Although the most common method for estimating parasitemia is through the use of the buffy coat from heparinized microhematocrit tubes, the parasite load in the smear ranged between 147×10^9 and 252×10^9 parasites per liter, accounting for her false diagnosis of thrombocytosis. The observation that her platelet count was higher than the baseline can be explained in part by the reactivation of the acute illness.

Spuriously elevated platelet counts have been encountered under conditions involving pronounced microcytosis (hemoglobin H disease), microangiopathic hemolytic anemia, burns, leukemia, and lymphoma (1). Moreover, candidemia and bacteremia with *Candida glabrata*, *Escherichia coli*, and *Klebsiella pneumoniae* have been mistaken for spuriously elevated platelet counts (2–4). Also, there are reported cases associated with bacterial blood smear contamination, malaria, and cryoglobulinemia (5). Parasitemia with *Trypanosoma cruzi*, as in this case, may account for a falsely elevated platelet count as well. In general, the methods used for platelet counting are electrical impedance, optical scatter, and those two methods in combination.

With the optical-scatter method, platelets are counted by analysis of the scattered light from an argon-ion laser as it intersects and disperses off the platelet surface. Electrical impedance relies on the ability of the platelet to impede the movement of the electrical charge, and the combination of optical scatter and electrical impedance has reduced the requirement for smear verification, hand counting, and other methods of external validation. The gold standard method for platelet enumeration uses the monoclonal antibody to CD61 and involves counting platelets by fluorescence; however, manual counting remains an invaluable tool for verification.

The causes of true thrombocytosis in the setting of systemic lupus erythematosus (SLE) flare are limited; nevertheless, thrombocytosis is commonly found to be a reactive process in systemic inflammatory responses. Other common causes are iron deficiency-associated anemia and myeloproliferative disorders.

Parasitemia with *Trypanosoma cruzi* in patients with Chagas disease is mainly described to occur during acute infection or dur-

ing reactivation in immunocompromised patients, and parasitemia is commonly associated with fever. Patients with SLE are well known to have some degree of immunosuppression, especially during an acute flare on treatment with high-dose steroids. Reported cases of Chagas reactivation in the setting of SLE have been described before (6). Parasitemia in this patient most likely represents likely a reactivation, then, since she was no longer living in a Colombian area where Chagas disease was endemic. The results of her Chagas serology tests came back positive. Following her diagnosis, the patient underwent a cardiac workup and assessment for treatment.

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We report no conflicts of interest.

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Address correspondence to Andrés F. Henao-Martínez, andres.henaomartinez@ucdenver.edu.

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