To the Editor:

Trimethoprim-sulfamethoxazole (TMP-SMX)-induced thrombocytopenia and pancytopenia have previously been described.\(^1\) Although the isolated thrombocytopenia associated with the use of this agent is generally attributed to antibody-mediated platelet destruction, in vitro evidence for such an immunologic mechanism has only rarely been reported.\(^2,3\)

The difficulty with objective demonstration of immunologic mediation may relate to the varying sensitivity of methods available to detect drug-associated platelet antibodies.\(^4,5\) In addition, some platelet antibodies may be mediated by drug metabolites rather than the drugs themselves, rendering standard testing invalid.\(^6\) We recently cared for a patient who presented with severe thrombocytopenia due to TMP-SMX, in whom drug-related platelet antibody was not demonstrable by standard methodology, but was detected by a flow cytometric assay.

A 30-year-old white man with past medical history significant only for recurrent sinusitis treated on several occasions with TMP-SMX presented with multiple cutaneous petechiae and hemorrhagic blisters of the oral mucosa that he developed after taking two doses of Sulfatrim DS (Goldline, Fort Lauderdale, FL) (one tablet contains 160 mg of TMP and 800 mg of SMX) prescribed for an illness characterized by a 1-day history of myalgia, abdominal cramps, and chills. Laboratory values were: platelets \(6 \times 1,000/\text{mm}^3\), hemoglobin 16.4 g/dL, white blood cell (WBC) count \(6.1 \times 1,000/\text{mm}^3\), normal differential count, and no evidence of red blood cell (RBC) microangiopathic change. Prothrombin time, partial thromboplastin time, fibrinogen level, and SMA-18 were normal and direct Coomb’s test was negative.

TMP-SMX-induced thrombocytopenia was suspected, but ITP (immune thrombocytopenic purpura) was also considered. TMP-SMX was discontinued and 100 mg of oral prednisone was administered on the first and second days. Platelet count returned to normal on the fifth day (Table 1). The patient has remained asymptomatic.

Serologic studies obtained on 11/23/92 (day 3) were negative for serum platelet reactivity by enzyme-linked immunosorbent assay (ELISA) for non-drug-dependent antibody and/or immune complexes (all platelet serologic studies were performed by the Blood Center of Southeastern Wisconsin Platelet Antibody Laboratory). Platelet reactivity was likewise absent in the patient’s serum by \(5^1\text{Cr} \) release assay in the presence of either TMP or SMX. However, subsequent testing by a developmental assay based on flow cytometry demonstrated significant serum sulfamethoxazole-dependent platelet-reactive antibody, and was consistent with a diagnosis of sulfamethoxazole-induced immune thrombocytopenia. This case represents one of only a few in which there has been objective in vitro demonstration of drug-dependent antibody associated with sulfamethoxazole, and illustrates the importance of using sensitive assay methods for antibody detection.

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REFERENCES

Sulfamethoxazole-related antiplatelet antibody [letter]
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