

CORRESPONDENCE

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In Reply:—My deceased organic chemistry professor, who long ago awarded this undeserving pre-medical student a high grade, must be spinning in his grave. Desflurane and isoflurane, though closely related, are most assuredly not isomers. They are analogs (a chemical compound structurally similar to another but differing often by a single element of the same valence and group of the periodic table as the element it replaces.¹) I am beholden to the many individuals who kindly and gleefully telephoned, faxed, E-mailed, Internetted, and wrote and even more thankful than previously to earn my daily bread practicing anesthesiology rather than chemistry.

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What's That Platelet Count?: A Case of Pseudothrombocytopenia in an Obstetric Patient

To the Editor:—I would like to report a case of pseudothrombocytopenia or spuriously low platelet count that may have erroneously prevented regional anesthesia in an ASA physical status I patient. A 34-yr-old healthy gravida 1 para 0 parturient presented in active labor and requested epidural anesthesia. She had an uncomplicated pregnancy and was receiving no medications other than prenatal vitamins. Routine laboratory data were obtained. Her initial platelet count was 69,000/mm³. A repeat platelet count on the same sample revealed a platelet count of 67,000/mm³. The attending anesthesiologist thoroughly discussed this with both the patient and the obstetrician. Her history was negative for easy bruising or hemorrhage. Additional laboratory data revealed normal prothrombin time and fibrinogen level. Fibrin split products were not increased. Lumbar epidural anesthesia was initiated without difficulty. One hour later, a separate blood specimen was drawn in a citrate containing vacuum, which revealed a platelet count of 120,000/mm³.

Anesthesiologists should be aware of spuriously low platelet counts due to the phenomenon of ethylenediaminetetraacetic acid (EDTA)-induced platelet clumping. When routine blood samples are collected and placed in an EDTA solution, as is customary, platelet clumping can occur. Automated cell counters consequently will underestimate the number of platelets present in the specimen.¹ After reviewing this case with a pathologist and viewing a peripheral smear of this patient's blood, multiple clumps of platelets could be seen attached to neutrophils. The mechanism of EDTA-induced platelet clumping seems to be a reaction of platelet-specific antibodies with platelets in the presence of EDTA.²

Anesthesiologists should be aware of this artifact so that diagnostic and therapeutic errors would not occur as one may erroneously withhold regional anesthesia in such individuals. It has been reported

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Reference

1. Webster's Ninth New Collegiate Dictionary. Springfield, Merriam-Webster, 1990, p 82

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that patients whose platelets were normal in function but whose laboratory tests spuriously indicated thrombocytopenia have been treated inappropriately with corticosteroids and diagnosed erroneously with idiopathic thrombocytopenic purpura.³

In conclusion, when a low platelet count is unaccompanied by signs or symptoms of bleeding or disseminated intravascular coagulation, pseudothrombocytopenia should be suspected. Anesthesiologists then can review these cases with pathologists, send a second specimen in a sodium citrate anticoagulated sample tube, and proceed with regional anesthesia with a clear conscience.

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3. Payne BA, Pierre RV: Pseudothrombocytopenia: A laboratory artifact with potentially serious consequences. Mayo Clin Proc 59:123-125, 1984

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