

# Immune-mediated thrombocytopenia due to an iodinated contrast medium (diatrizoate)

A. Majid Shojania,\* MD, FRCPC

Six cases of acute thrombocytopenia following the use of iodinated contrast media have been reported.<sup>1-6</sup> I report two additional cases.

## Case reports

### Case 1

A 57-year-old woman known to have chronic renal failure was admitted to hospital for cardiac catheterization. She was taking several medications and undergoing hemodialysis twice a week, but her platelet count had always been normal. She received 5 mL of 75% diatrizoate sodium (Hypaque-M) and 60 mL of diatrizoate meglumine and diatrizoate sodium (Renografin-76) for left ventricular angiography and selective coronary arteriography. The next day she was drowsy, and the following day generalized ecchymoses and petechiae and a small hemorrhage in the left fundus were noted. Her platelet count was  $21 \times 10^9/L$ , but her prothrombin time and activated partial thromboplastin time were within normal limits. No specific therapy was given, and all medications were continued. Her platelet count increased spontaneously and reached  $170 \times 10^9/L$  by the ninth day after the procedure; it remained normal thereafter.

### Case 2

A 60-year-old man was trans-

ferred to my hospital because of renal failure. He had undergone intravenous pyelography and oral cholecystography about 5 weeks earlier. His platelet count was  $289 \times 10^9/L$ . Two days after admission bilateral percutaneous nephrostography was performed and 20 mL of 60% diatrizoate meglumine (Reno-M-60) introduced into both renal pelvises. The x-ray film showed some leakage of the contrast medium in the right perinephric region. Fourteen hours after the procedure, bleeding from the nephrostomy tubes was noted, and his platelet count had dropped to  $8 \times 10^9/L$ . However, his prothrombin time and activated partial thromboplastin time remained normal, and bone marrow aspiration showed an adequate number of megakaryocytes. Six units of platelet concentrate were given, and the platelet count increased spontaneously, reaching  $252 \times 10^9/L$  5 days after the procedure.

Two days later 100 mL of 60% diatrizoate meglumine was given intravenously for computed tomography of the abdomen. Twelve hours later, bleeding from the nephrostomy tubes was again noted, and the patient's platelet count over the next 4 hours was 6, then 7, then  $9 \times 10^9/L$ . His prothrombin time and activated partial thromboplastin time remained normal. Six units of platelet concentrate were given, and 1 hour later his platelet count was  $20 \times 10^9/L$ . No other therapy was given, and 4 days later his platelet count was  $74 \times 10^9/L$  and platelet-associated antibody level 10.0 (normally less than 2.0) fg/platelet. The patient was sent back to the local hospital for terminal care with the diagnosis of advanced poorly differentiated adenocarcinoma.

## Discussion

Thrombocytopenia following the use of iodinated contrast media may be more common than has been thought. Physicians often neglect to inquire specifically about exposure

to these compounds or are not aware that they might have been used in diagnostic procedures. With the exception of barium sulfate, which is used for some gastrointestinal investigations, the contrast media used in diagnostic radiology are iodinated organic compounds with a very similar formula.

Five cases of acute thrombocytopenia following oral administration of iodinated organic compounds for cholecystography<sup>1-5</sup> and one case of acute thrombocytopenia following intravenous administration of diatrizoate for angiography<sup>6</sup> have been reported. In all the cases the thrombocytopenia was due to rapid platelet destruction, presumably through an antibody effect. The pattern of recovery in these cases and in the two that I report suggests that the compound must be present for the destruction of platelets to occur.

Patients undergoing repeated radiologic investigations that include the use of iodinated contrast media are at risk of producing antibodies and of subsequently having immune-mediated thrombocytopenia.

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From the departments of Pediatrics, Medicine and Laboratory Services, St. Boniface General Hospital, and the departments of Pediatrics, Pathology and Medicine, University of Manitoba, Winnipeg

\*Professor of pediatrics and associate professor of pathology and medicine, University of Manitoba

Reprint requests to: Dr. A. Majid Shojania, Department of Hematology, St. Boniface General Hospital, 409 Tache Ave., Winnipeg, Man. R2H 2A6