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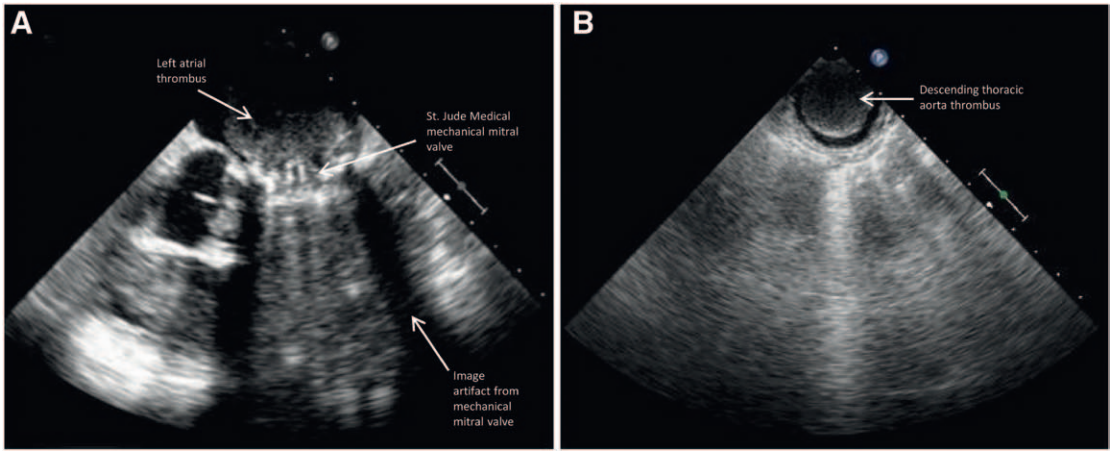
Intracardiac Thrombosis after Emergent Prothrombin Complex Concentrate Administration for Warfarin Reversal

Jordan E. Goldhammer, M.D., Magdalena J. Bakowitz, M.D., M.P.H., Bonnie L. Milas, M.D., Prakash A. Patel, M.D.



RECENTLY published clinical practice guidelines recommend prothrombin complex concentrate (PCC) for urgent reversal of vitamin k antagonists.[1,2] Both three-factor and four-factor PCC have been shown to be superior to fresh-frozen plasma for international normalized ratio normalization; with the added benefit of quicker access and administration, decreased transfusion-related morbidity, and fewer adverse events secondary to volume overload.

A 74-yr-old, 67-kg female who previously received a mechanical mitral valve replacement was dosed 3,420 units of Profilnine (three-factor PCC) for urgent reversal of warfarin (international normalized ratio 5.5/prothrombin time 54.4) in preparation for emergent cervical spine surgery due to cord compression. Fifty-five minutes after PCC administration, the patient developed hypoxia and hemodynamic instability. Advanced cardiac life support was initiated. Emergent transesophageal echo revealed extensive thrombus of the mechanical mitral valve (fig. A) and the descending thoracic aorta (fig. B).

Thromboembolic events, especially during anesthesia, are a rare but known side effect of PCC administration. A recently completed prospective, randomized, multicenter study comparing PCC with fresh-frozen plasma found thrombotic events occurred in 3.9% of patients treated with PCC.[3] Rapid international normalized ratio normalization has been documented in doses ranging from 12.5 to 50 units/kg; however, a clinically effective yet safe dose of PCC before surgery has yet to be determined. When considering PCC administration, the patients' native hemostatic mechanism must be considered. Patients with underlying thrombogenic potential may benefit from decreased PCC dose or alternative therapeutic options to avoid stroke, pulmonary embolism, myocardial ischemia, or death due to PCC-related thromboembolic events.

Competing Interests

The authors declare no competing interests.

Correspondence

Address correspondence to Dr. Goldhammer: jordan.goldhammer@jefferson.edu

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From the Department of Anesthesiology and Critical Care, Hospital of the University of Pennsylvania, Philadelphia, Pennsylvania (J.E.G.).

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