

Use of a Novel Bicarbonate-Based Impella 5.5 Purge Solution in a Coagulopathic Patient

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Abstract

The Impella 5.5 with SmartAssist (Abiomed; Danvers, MA) is a life-saving treatment option in acute heart failure which utilizes a continuous heparin purge solution to prevent thrombosis. In patients with contraindications to heparin, alternative anticoagulation strategies are required. We describe the stepwise management of anticoagulation in a coagulopathic patient with persistent cardiogenic shock following a coronary artery bypass procedure who underwent Impella 5.5 placement. A direct thrombin inhibitor-based purge solution was utilized while evaluating for heparin-induced thrombocytopenia. Use of a novel bicarbonate-based purge solution (BBPS) was successfully used due to severe coagulopathy. There were no episodes of pump thrombosis or episodes of severe bleeding on the BBPS and systemic effects of alkalosis and hyponatremia were minimal.

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