In Response

We sincerely thank you for your insightful and constructive comments. We would like to point out that our experience with 10 cases suggests that this novel intraoperative anticoagulation strategy may be a safe and effective alternative for patients with heparin-induced thrombocytopenia (HIT).¹ Our experience recognizes the clinical feasibility of this strategy in a variety of on-pump cardiovascular surgeries, including one that requires deep hypothermic circulatory arrest. There were no serious postoperative thrombotic events or major bleeding complications that required reoperation. We referred to the US Food and Drug Administration for the dosage and administration of cangrelor (Kengreal; Chiesi, Cary, NC).

The intraoperative testing of cangrelor levels used during all 10 cases involved sending 2 samples, one to the catheterization laboratory for a rapid VerifyNow P2Y₁₂ assay and the other to the main laboratory for testing. With regard to the P2Y₁₂ platelet reactivity unit (PRU) value of 252 reported, there was a delay in specimen delivery to the laboratory, which may have resulted in an inaccurate value.² The team decided to exercise caution and decrease the risk of a thromboembolic event by administering additional cangrelor. Given its favorable pharmacokinetics, cangrelor is quickly eliminated, making this strategy and the potential for overdose more forgiving. Just as with tirofiban, the exact

level of platelet inhibition to prevent FcγRIIIa activation by HIT antibodies is unknown with the thought that greater platelet inhibition is more efficacious. Finally, as described in the case report, the blood products administered were given to correct abnormal preoperative laboratory values as a precaution to prevent postoperative bleeding in this patient. ■■

Alexander M. Girgis, MD

Dalia A. Banks, MD, FASE

Department of Anesthesiology

Sulpizio Cardiovascular Center

University of California, San Diego

La Jolla, California

agirgismail@gmail.com

REFERENCES

1. Gernhofer YK, Banks DA, Golts EM, Pretorius V. Novel use of cangrelor and heparin for intraoperative anticoagulation in patients with heparin-induced thrombocytopenia who require cardiovascular surgery: a case series. Paper presented at Western Thoracic Surgical Association 45th annual meeting; June 26-29, 2019; Olympic Valley, CA. Abstract.
2. Girgis AM, Golts E, Humber D, Banks DA. Successful use of cangrelor and heparin for cardiopulmonary bypass in a patient with heparin-induced thrombocytopenia and end-stage renal disease: a case report. *A A Pract*. 2019;13:10-12.

DOI: 10.1213/XAA.0000000000001095