A Case Report: Post Cardiotomy ECMO Patient Complicated by Heparin-Induced Thrombocytopenia

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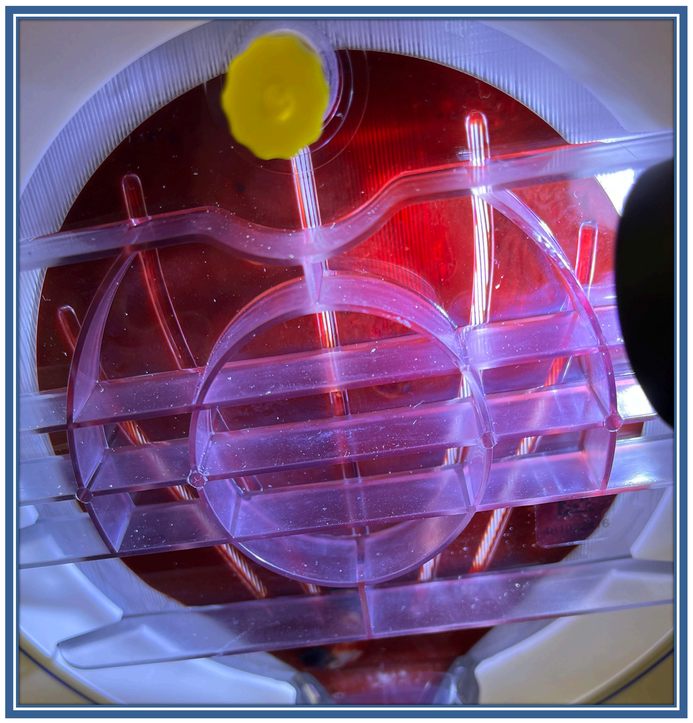
PURPOSE

Heparin-Induced Thrombocytopenia associated with massive pulmonary bleeding immediately following cardiopulmonary bypass is rarely reported on. While complications during an ECMO run are not uncommon, this case was further complicated by the presence of HIT.

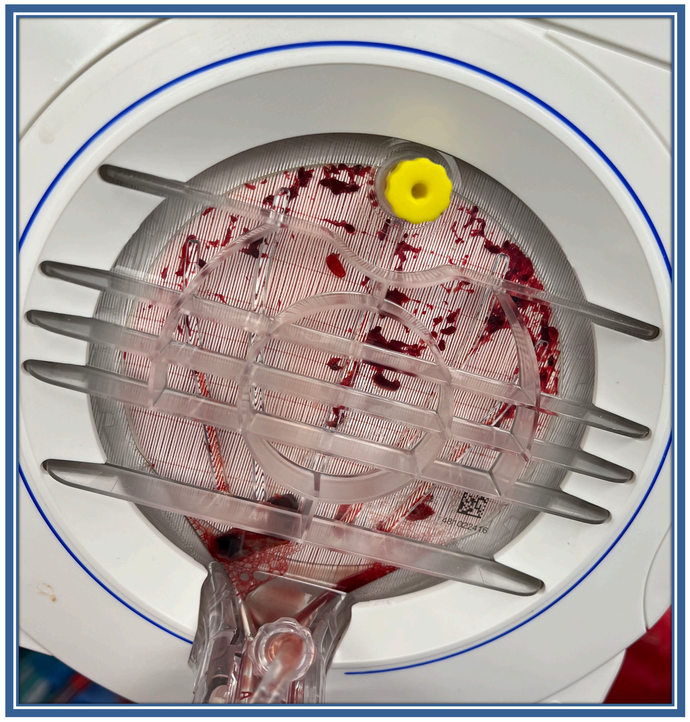


CASE

A 61-year-old male developed massive alveolar hemorrhage of unknown etiology which required massive transfusion protocol and ultimate right upper lung lobectomy for potential source control immediately following 3 vessel coronary artery revascularization. Central VA ECMO was initiated, and ICU ECMO care was initiated without systemic anticoagulation. Thrombocytopenia (TCP) was attributed to blood loss/consumption/hemodilution. Bleeding recurred requiring over 100 units of mixed blood products in ensuing 24 hrs. Despite this, liver and kidney function remained normal. Cardiac function improved over a few days. Three cannulation conversions (change from central to peripheral VA ECMO, VAV modality, and VAV with axillary arterial return) occurred under heparin anticoagulation. Following each conversion, circuit thrombosis and subsequent circuit change out occurred within 48 hours. Systemic heparin anticoagulation was started on day five. On day eight and nine, liver and renal failure deterioration occurred and CRRT was initiated. Right lower limb ischemia was noted. Concern given the repetitive clotting, TCP and abnormal bleeding led to evaluation of factor deficiencies and HIT. On day 10, positive HIT results were received. Anticoagulation was changed to bivalirudin. Continued deterioration led to pan-body computed tomography which revealed multiple ischemic strokes, right accessory hepatic vein thrombosis, and retroperitoneal hematoma. On ECMO day 12, comfort care was initiated via family request and the patient expired.

CONCLUSIONS

Heparin-Induced Thrombocytopenia associated with massive pulmonary bleeding immediately following bypass is rarely reported. While some degree of coagulopathy during ECMO is common, cases with combinations of post-operative hemorrhage of unknown etiology combined with thrombotic events early in the ECMO course should trigger a low threshold to suspect HIT.



REFERENCES

See Poster Author for references

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