A Case of Pregnancy Complicated by Hypereosinophilic Syndrome with Cardiac Thrombus: Anticoagulation, Heparin-induced Thrombocytopenia and Anesthetic Management

Abstract Type: Case Report/Case Series
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Introduction: Hypereosinophilic syndrome (HES) is a rare disorder characterized by persistent eosinophilia and unexplained end-organ dysfunction. Cardiac involvement, typically apical thrombus in the ventricles, is a major source of morbidity and mortality. We report such a case during pregnancy, who required anticoagulation, developed heparin-induced thrombocytopenia (HIT) and presented for cesarean delivery.

Case Report: A 32-yr-old, G4P2, at 12 wks in gestation was admitted for work-up due to amaurosis fugax, splinter hemorrhage and chest pressure. She was found to have retinal emboli. Echocardiogram showed apical thrombus in left ventricle, which led the cardiologist to suggest the diagnosis of HES, and patent foramen ovale (PFO) as well. Eosinophil count was 19% (2.2 x 109). Anticoagulation was initiated by heparin. Platelets dropped to 74 x 109 on the 3rd day of heparin with positive heparin-induced platelet antibody (HIPA). With the diagnosis of HIT, heparin was replaced by argatroban, then, fondaparinux 7.5 mg daily which was maintained throughout the pregnancy. When she was referred for anesthesia consultation at 33 wks, she was doing well without any further events. Her medications included fondaparinux, prednisone, low-dose aspirin, ranitidine, prenatal vitamin. Her platelet and eosinophil counts were normal. Physical exam was unremarkable except systolic murmur. Cesarean delivery was planned in consideration of her high-risk of thromboembolism with prolonged off-anticoagulation during labor and delivery. She was admitted at 38 3/7 wks to bridge fondaparinux to argatroban in anticipation of the neuraxial anesthesia and surgery at 39 wks. Follow-up echo prior to admission showed persistent apical thrombus. Argatroban infusion was started and titrated up to keep the PTT in 60-80sec for three days until 2 am on the day of surgery. Four hours later, aPTT was 27 sec. When she was taken to the OR, fondaparinux had been off 6 days and argatroban 6 hrs, respectively. Uneventful CSE anesthesia was administered using loss-of-resistance to normal saline due to PFO. Intraoperative course was uncomplicated and the epidural catheter was removed at the end. Argatroban was resumed 12 hrs postop during the transition to warfarin. After uneventful recovery she was discharged on POD #4 with warfarin 2.5 mg, prednisone 10 mg and low-dose aspirin.

Discussion: Our case of HES with cardiac thrombus presented multiple challenges in management. First, she presented during her first trimester with ongoing embolization, which required prompt therapeutic anticoagulation. Secondly, initial heparin therapy, complicated by ITP mandated replacement therapy. Fondaparinux was maintained throughout her pregnancy. Thirdly, for cesarean delivery, short-acting argatroban was used in anticipation of neuraxial block for bridging from fondaparinux, of which plasma half-life is 21 hrs.