The Perfect Storm: Pregnancy, Malignancy, and Embolic Complications
Multidisciplinary Approach to Right Atrial Mass in a Pregnant CML Patient

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Introduction

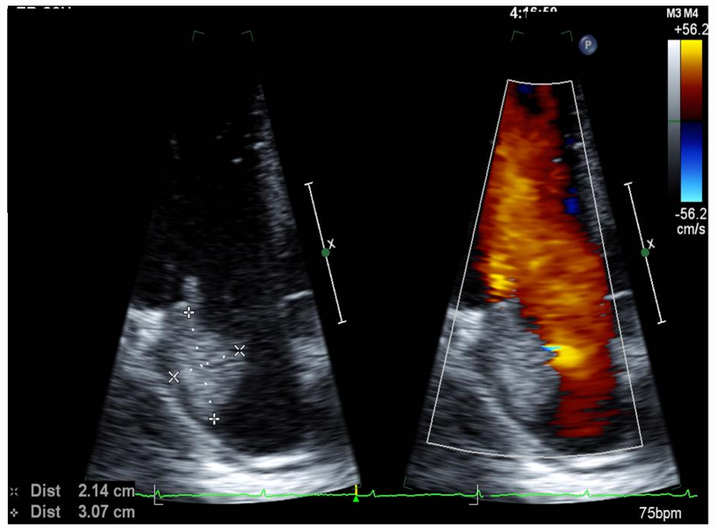
Pregnancy and puerperium are established risk factors for venous thromboembolic disease (VTE). Active malignancy adds an additional layer of risk for VTE, yet there are no clear recommendations for prophylaxis with systemic anticoagulants in this population.

Case Description

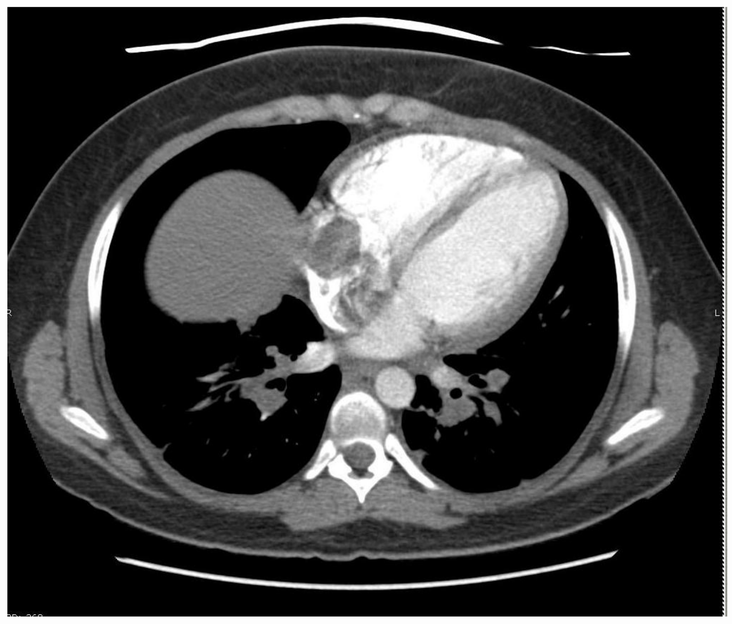
An 18-year-old gravid female known to have Chronic Myelogenous Leukemia (CML) presented at 30 weeks gestational age after being found unresponsive by her mother. She had a large pulmonary embolism (PE) as well as a right atrial mass of unclear etiology extending down into the IVC.

She had an infected venous port catheter removed 7 days prior to presentation and was being treated for an oxacillin resistant coagulase negative staphylococcus infection. There was concern for a vegetation on the tricuspid valve in addition to the atrial mass, and she was treated with vancomycin for possible SBE. Blood cultures were negative. There was no DVT demonstrated in the bilateral lower extremities, subclavian, or internal jugular venous systems.

During pregnancy her CML was managed with periodic leukopheresis and hydroxyurea. She was delivered by caesarean section on hospital day 5, and started on warfarin in addition to heparin. Biopsy of the right atrial lesion was performed due to concern for infected clot or malignancy, but demonstrated only clot.



Transthoracic echo image showing the large mass within the right atrium.



CTA reveals the mass/clot extending into the IVC.

Discussion

Right heart thromboemboli (RHTE) are typically associated with a catheter tip in the right atrium and an incidence of up to 12.5%.

Our patient demonstrated no evidence of thrombus in the subclavian or internal jugular systems at presentation, but had a catheter in place for about one month with removal only one week prior to presentation.

Central venous catheter, malignancy, procoagulant state (pregnancy), and concurrent infection were risk factors for thrombotic complications and subsequent PE in our patient.

No clear guidelines exist for prophylactic systemic anticoagulation in patients with active malignancy during pregnancy due to teratogenic effects of warfarin and potential hemorrhagic risk associated with heparin. Risks and benefits must be weighed in regard to treatment and prophylaxis for thromboembolic complications.

References

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