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Background

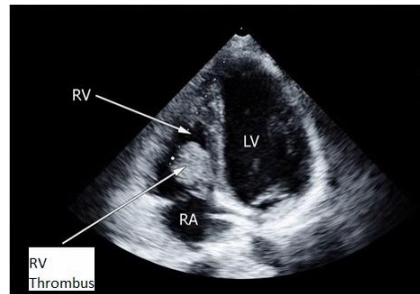
- Factor V Leiden (FVL): the most common genetic risk factor for Venous Thromboembolism (VTE)
- Choosing an appropriate anticoagulant regimen and preventing VTE in FVL is quite challenging
- Inadequate anticoagulation has led to life threatening complications in patients homozygous for FVL

Case Presentation

- 83-year-old female, homozygous for FVL mutation, with a history of multiple occurrences of DVT and PE, presented with shortness of breath and cyanosis
- No VTE events while on warfarin for 10 years; switched to rivaroxaban for the convenience of monitoring, found to be in cardiogenic shock: Echocardiogram revealed Right Ventricle thrombus
- Treated with heparin drip and then warfarin; however, remained critically ill and expired four weeks later from acute on chronic respiratory failure

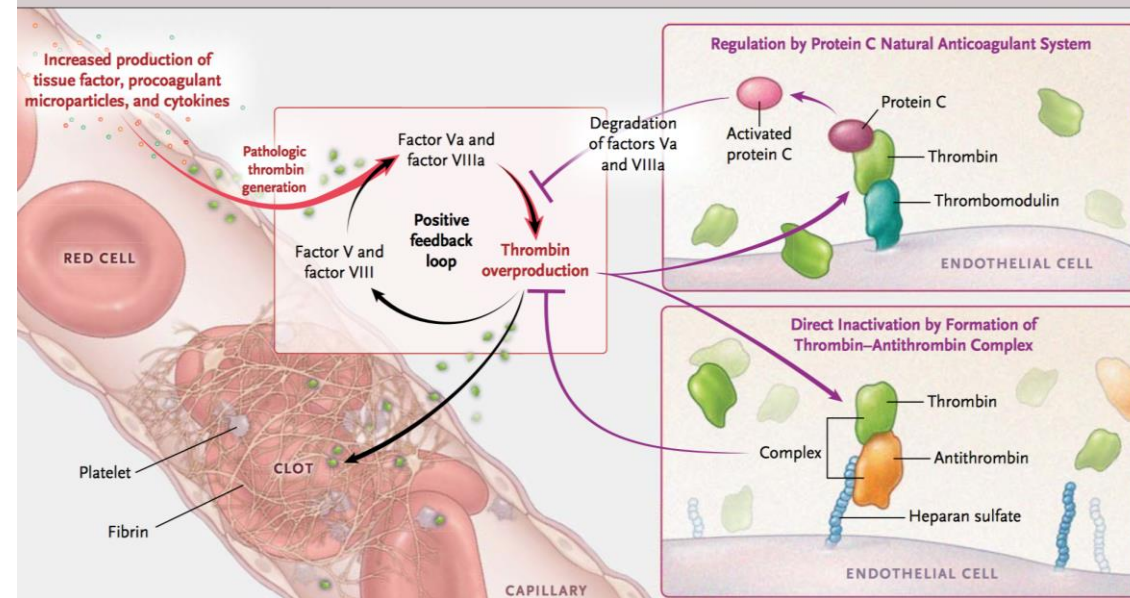
Discussion

- FVL - point mutation that eliminates a critical cleavage site in factor V and factor Va → Increased VTE risk
- The choice of anticoagulation is based on severity of thrombosis, patient preference and adherence to therapy.
- Hematologists' preference: Direct Oral Anticoagulation (DOAC) for typical VTE, and warfarin for poor adherence/who benefit from maintaining an INR in the high end of the therapeutic range (e.g., sub-massive/massive PE or DVT with proximal clot burden).



Echocardiogram demonstrating right ventricular thrombus

C Regulatory Pathways Responding to Pathologic Thrombin Generation



Conclusion

- The individual patient factors should be considered when choosing the appropriate anticoagulant regimen in patients homozygous for FVL.
- As inadequate anticoagulation may lead to devastating complications, clinicians should obtain a thorough history of thromboembolic events prior to choosing anticoagulation strategy.