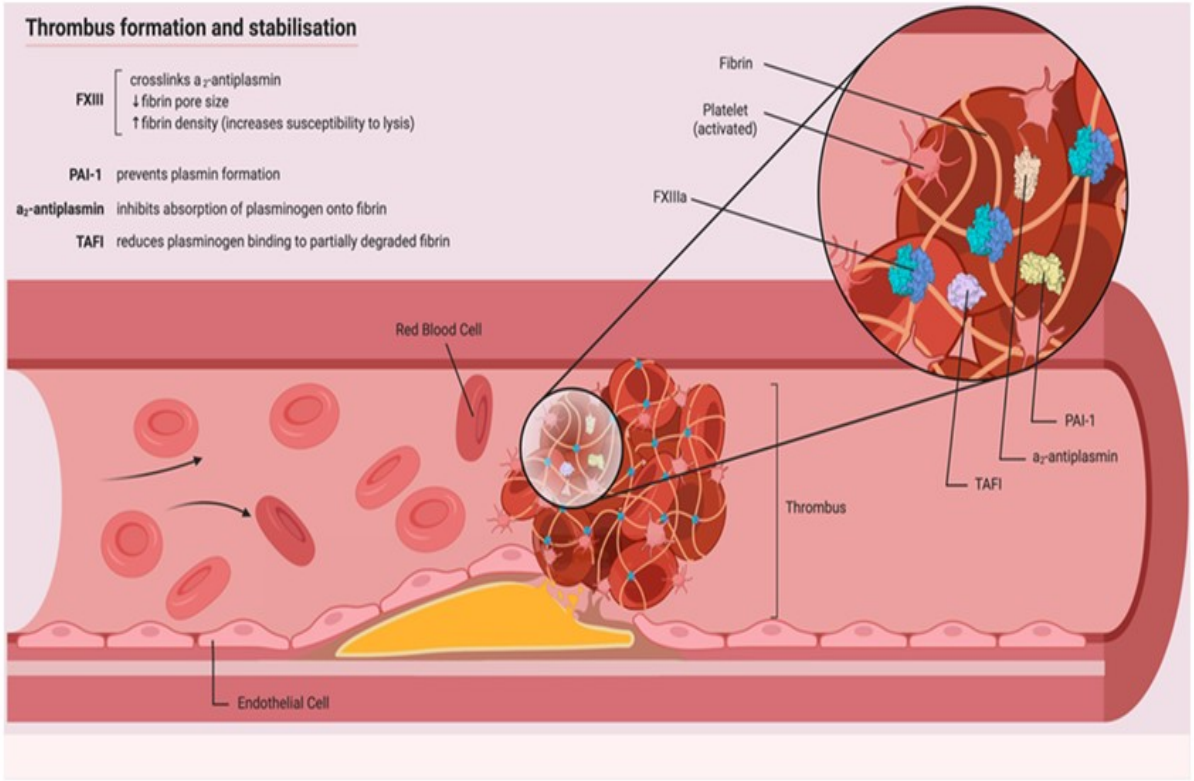
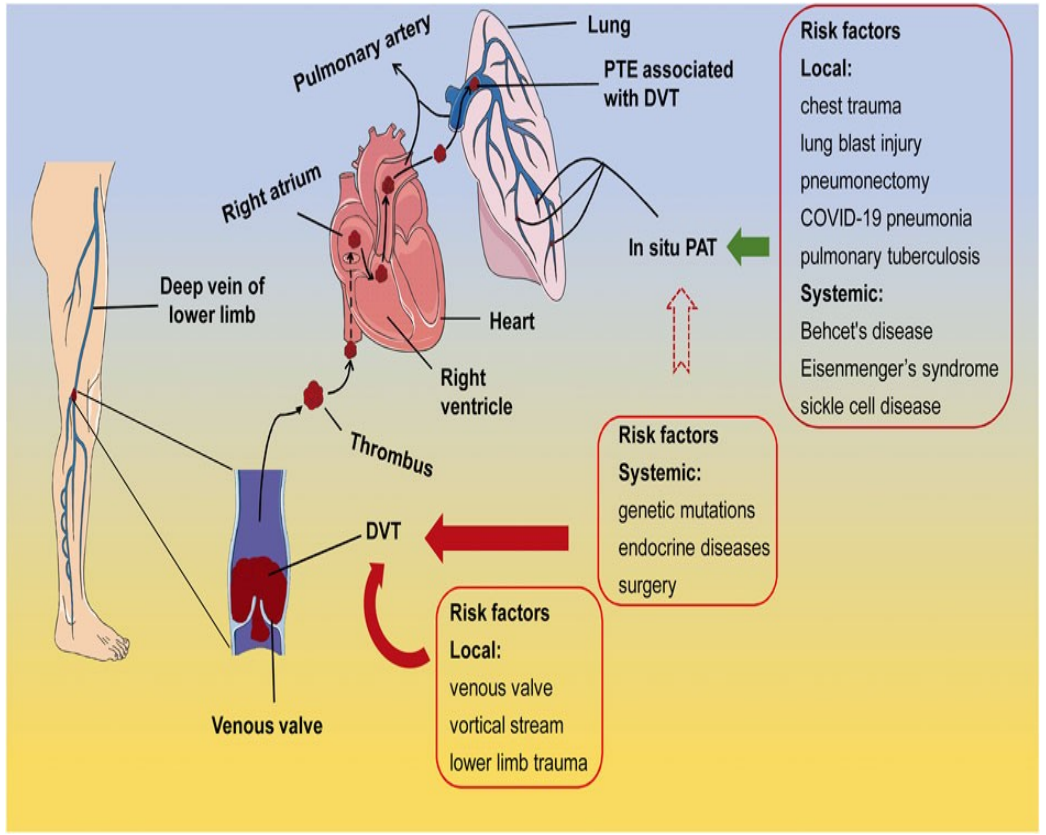
Likely Site of Thrombus Formation

- It is very likely that the thrombus was produced in the deep veins of the lower limbs (popliteal vein, femoral vein, or iliac vein) (Imiela et al., 2025).
- Venous stasis and reduced blood flow in these large diameter vessels is the reason why they are the most common sites for DVT.
- Venous duplex ultrasound of Michael's leg showed a DVT in his left leg.
- Immobilization results in inflammation, endothelial activation, and the production of a fibrin rich clot(Schulman et al., 2024).



https://www.researchgate.net/publication/348974778/figure/fig1/AS:1143128138695652@1745094491360/Thrombus-formation-and-stabilisation-Coagulation-factor-XIII-FXIII-crosslinks-fibrin.tif

Route of Thrombus Migration to the Lungs



https://www.frontiersin.org/files/Articles/671589/fphar-12-671589-HTML/image_m/fphar-12-671589-g001.jpg

- Some parts of a blood clot that forms as a result of DVT will break loose and become an embolus that breaks free from the veins of the legs.
- The embolus flows through the usual path of the circulatory system of the body by passing through the:

  Deep veins → Femoral vein → Iliac vein → Inferior Vena Cava → Right Atrium → Right Ventrical → Pulmonary Artery.
- The embolus gets stuck at the place the vessel narrows, which is the right pulmonary artery.
- The relationship between DVT and Pulmonary Embolism (PE) (also known as Venous Thromboembolism (VTE)) is so closely associated with one another because of this process (Peracaula et al., 2024).

Why the Embolus Lodged in the Right Pulmonary Artery

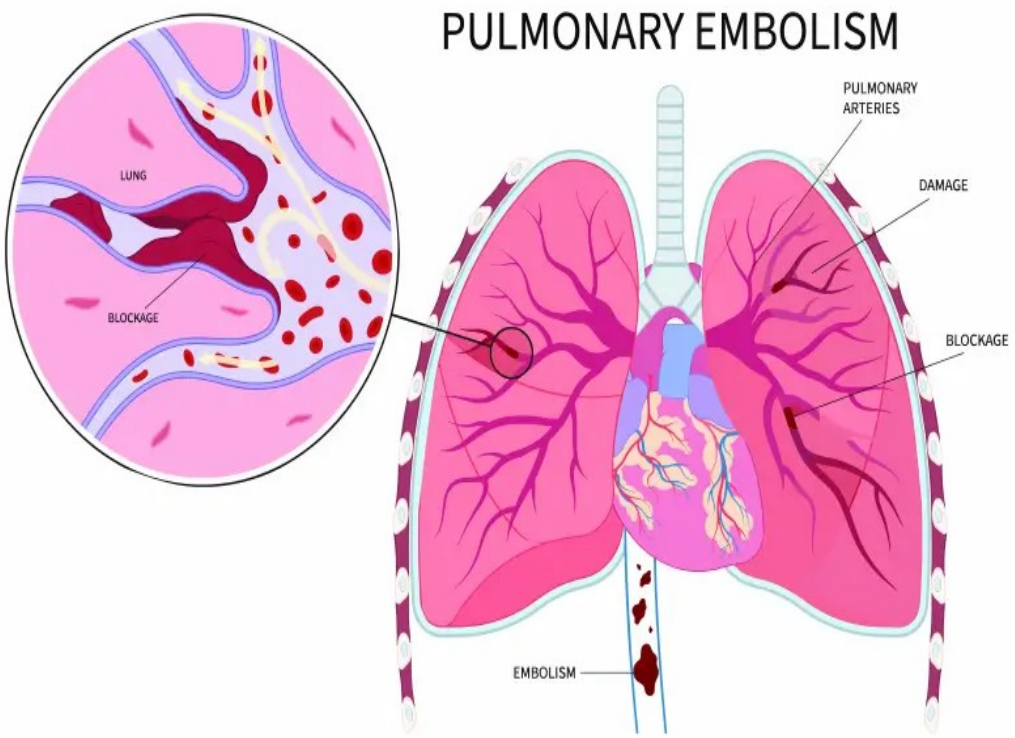
• The Pulmonary Arterial Tree Narrowing will increase the likelihood of Emboli Lodging or Impaction

• The Right Pulmonary Artery is often the location for clots because it is directly in line with the right ventricular outflow tract

• More Clot Burden from Proximal Lower-Leg Veins will cause a greater tendency to lodge on the Right Side

• Results in Acute Obstruction; Increased Pulmonary Vascular Resistance; Strain to the Right Ventricle;

• Explains why Symptoms can be Severe when there are no abnormalities found by Lung Auscultation (Shah et al., 2022)



https://www.carehospitals.com/ckfinder/userfiles/images/pulmonary_embolism_2.webp

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