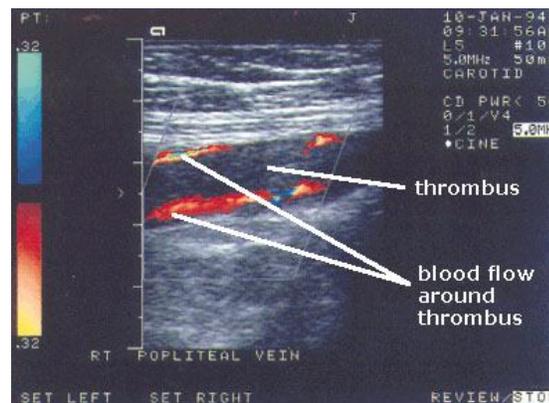


A 52 year old post-op woman's right lower leg is red, in pain, and has edema. The physical examination shows tenderness to palpation, increased circumference by 2cm compared to the left lower leg, and squeezing the right posterior calf elicits pain. She is not on any medications. She has had no exposure to new foods, detergents, clothes, environments. You ask her about her family history and she tells you her maternal aunt died of a pulmonary embolis. What would you assume to be the diagnosis and how would you confirm it?



A venous doppler ultrasonography shows she has a DVT. Deep vein thrombosis is the formation of a blood clot in a deep vein. A blood clot is aggregation of platelets that form a platelet plug and clotting factor activation. Decreased flow rate of the blood, damage to the blood vessel wall and an increased tendency of the blood to clot are three mechanisms in which this can occur. These three mechanisms are known as Virchow's triad. She is in a very high risk group for a PE due to the fact that she is already genetically predisposed to suffering from a clotting issue and that she has been bed ridden for a few days post surgery.

Treatment consists of anticoagulants to cease the aggregation. Heparin binds to the enzyme inhibitor antithrombin III (AT) causing a conformational change that results in its activation through an increase in the flexibility of its reactive site loop. The activated AT then inactivates thrombin, which can no longer produce fibrin meshes for platelet and return plasma back to its normal viscosity.

Disregard these symptoms and you may end up dead due to the clot dislodging from the vein and circulating through your blood system. If the clot is big enough, it could surely get lodge in a main vessel in your lungs thus obstructing further blow flow. If blood can't get oxygenated in the lungs

because there's a clot blocking its passage, and vital tissues and organs aren't receiving critically needed oxygen... well you see my point, so rest in peace!

References

1. http://en.wikipedia.org/wiki/Deep_vein_thrombosis#Anticoagulation
2. http://en.wikipedia.org/wiki/Heparin#Medical_use
3. http://www.australianprescriber.com/upload/issue_files/2103_266_2.jpg