

AN OLDER WOMAN WITH PAIN AND SWELLING OF LEFT LEG

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CASE HISTORY

Displayed is the photograph of the lower limbs of a 58-year-old lady who complained of pain and swelling of her left leg. Examination revealed tenderness in her left leg especially around her calf area which was warm to touch. She was afebrile and her vital signs were within normal limits. She was recently diagnosed with cervical carcinoma and underwent a total hysterectomy 2 weeks ago. Her full blood count was normal.



Figure 1

QUESTIONS

1. What are the possible differential diagnoses?
2. What is the most likely diagnosis? Explain your answer.
3. How will you confirm your diagnosis?

ANSWERS

1. Deep vein thrombosis, venous insufficiency, superficial thrombophlebitis, cellulitis, lymphoedema with lymphangitis, ruptured Baker's cyst.
2. Deep vein thrombosis of the left leg. Risk factors present in this patient are: cervical cancer, post surgery, immobility.
3. D-dimer test, doppler ultrasonography, venogram. She was diagnosed after doppler ultrasonography. There was a clot in her left popliteal vein.



Figure 2 : This is a picture of venogram showing the filling defect in popliteal deep vein.

DISCUSSION

Deep vein thrombosis (DVT) is an important cause of morbidity and mortality worldwide, and its clinical diagnosis may be unreliable.^{1,2} Decreased flow rate of the blood, damage to the blood vessel wall and an increased tendency of the blood to clot (hypercoagulability) are the constituents of Virchow's triad. Compression of the veins, physical trauma, cancer, infections, certain inflammatory diseases, immobilisation and heart failure may predispose to DVT. The risks are increased with smoking, obesity, increasing age, certain drugs (such as oestrogen or erythropoietin). Women have an increased risk during pregnancy and in the postnatal period. Cancer and immobility are the leading causes of DVT in people over 45, and in people under that age, thrombophilia becomes important.²

Outpatients with suspected DVT have non-specific signs and symptoms.³ Homans' test used to be a popular clinical test to diagnose DVT where dorsiflexion of foot elicits pain in posterior calf. However, it is of little diagnostic value and is theoretically dangerous because of the possibility of dislodgement of loose clot. Hence it is not advised to practise anymore.⁴ Since cellulitis is an important differential diagnosis in patient with suspected DVT, it is useful to note there might be a line of demarcation of the erythematous area in cellulitis which is absent in DVT.

The most commonly used tests for the diagnosis of DVT are D-dimers and doppler ultrasound of the affected veins. Sometimes, further testing is required to find the cause of the DVT. D-dimer tests generally have a high negative predictive value with estimated sensitivity of 98% (94–100%) and specificity 54% (47–62%)⁵ and are useful rule-out tests that reduce the need for imaging when used in conjunction with clinical probability, plethysmography, or ultrasonography.^{6,7}

Duplex ultrasonography, due to its high sensitivity, specificity and reproducibility, has replaced venography as the most widely used test in the evaluation of the disease. This test involves both a B mode image and Doppler flow analysis. It is considered to be the best non-invasive diagnostic method and has been evaluated against venography in many studies, showing an average sensitivity and specificity of 97% for proximal DVT.⁷ However, the sensitivity for symptomatic calf vein thrombosis has been reported to be as low as 75%.⁸

The gold standard is intravenous venography, by injecting a contrast agent to the vein of the affected limb and taking X-rays to demonstrate the filling defect.⁹ This procedure is invasive and not always technically possible, and it carries a small risk of an allergic reaction or venous thrombosis.⁹

To prevent further accrual and formation of new clots with a risk of pulmonary embolism, anticoagulation is advised. Prevention of DVT is advised using anticoagulants and graduated compression stockings.¹⁰

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Extreme of HbA_{1c} is associated with increased mortality in type 2 diabetes mellitus

Currie CJ, Peters JR, Tynan A et al. Survival as a function of in people with type 2 diabetes: a retrospective cohort study. *Lancet.* 2010;375(9713):481-9.

A retrospective cohort study from a large database based in UK general practice found a U-shaped association between HbA_{1c} and survival. The cohort with the lowest risk of dying had median HbA_{1c} of 7.5%. All-cause mortality was higher in cohort with lowest HbA_{1c} (median 6.4%) and highest HbA_{1c} (mean 10.5%).