**Case:** You are asked to review a 68-year-old woman on the ward. She had an anterior resection for a rectal tumour 5 days ago. Postoperative recovery has been unremarkable and she has started to eat and drink and opened her bowels today. You have been asked to examine her as she is complaining of pain and swelling of the left leg. There is no history of trauma to the leg. Her temperature is 37.5°C and her pulse rate is 99/min. The abdomen is soft and non-tender. The left leg is swollen to mid-thigh, with erythema of the skin. The calf feels warm and is tender to touch. The foot pulses are normal.

|  |  |
| --- | --- |
| **INVESTIGATIONS** | |
| **Results** | **Normal** |
| Haemoglobin 11.5 g/dL  White cell count 16.7 × 109/L  Platelets 360 × 109/L  Sodium 143 mmol/L  Potassium 4.6 mmol/L  Urea 9.5 mmol/L  Creatinine 71 μmol/L  C-reactive protein (CRT ) 100 mg/L | 11.5–16.0 g/dL  4.0–11.0 × 109/L  150–400 × 109/L  135–145 mmol/L  3.5–5.0 mmol/L  2.5–6.7 mmol/L  44–80 μmol/L  <5 mg/L |

**Questions**

• What is the most likely diagnosis? What are the differentials?

• What investigation should be carried out next?

• What are the risk factors associated with this condition?

• How should this condition be treated?

• What are the long-term sequelae of this condition?

**Answer:**

The most likely diagnosis is a deep vein thrombosis (DVT). Clinical examination is notoriously inaccurate for making the diagnosis, as the degree of swelling and pain varies and patients can be symptomless.

**! Differential diagnoses**

• Cellulitis

• Lymphangitis

• Soft tissue injury

• Lymphoedema

• Haematoma

• Arterial insufficiency

• Ruptured Baker’s cyst

A normal D-dimer assay (fibrin degradation products) would usually exclude a diagnosis of DVT, but is not useful in this case as the recent surgery means that it will be positive regardless. The diagnosis is best confirmed using duplex ultrasonography of the deep veins.

**! Risk factors for deep vein thrombosis**

• Age

• Bed rest

• Pregnancy

• Oral contraceptive pill

• Major surgery

• Medical

• Major trauma

• Burns

• Lower-extremity fractures

• Haematological

• Thrombocytosis

• Polycythaemia

• Protein S deficiency

• Protein C deficiency

• Antithrombin III deficiency

• Factor V Leiden

Anticoagulation is the mainstay of treatment, aimed at preventing extension of the thrombus and reducing the risk of pulmonary embolism. Therapeutic low-molecular-weight heparin and warfarin are commenced at the same time. Heparin is stopped when the international normalized ratio (INR) becomes therapeutic. The target INR is usually in the range of 2–3. Some authorities do not treat DVT confined to the calf because of the very low risk of pulmonaryembolism. DVT can result in venous hypertension, and long-term consequences include the post-thrombotic syndrome, which consists of leg pain, swelling, lipodermatosclerosis and ulceration.

**KEY POINTS**

• Treatment should be commenced once a DVT has been diagnosed clinically.

• The diagnosis is confirmed with ultrasound.