3.2 Thromboembolism

Venous thromboembolism 26-Jul-2018

Overview

Venous thromboembolism includes deep-vein thrombosis and pulmonary embolism and occurs as a result of thrombus formation in a vein.

Venous thromboembolism prophylaxis

EvGr All patients should undergo a risk assessment to identify their risk of venous thromboembolism and bleeding on admission to hospital. A Commonly used risk assessment tools can be found at www.nice.org.uk/guidance/ng89/resources. Patients considered to be at high risk of venous thromboembolism include those who are anticipated to have a substantial reduction in mobility, those with obesity, malignant disease, history of venous thromboembolism, thrombophilic disorder, and patients over 60 years of age. Pregnancy and the postpartum period are also risk factors for venous thromboembolism.

There are two methods of thromboprophylaxis: mechanical and pharmacological. Options for mechanical prophylaxis are anti-embolism stockings that provide graduated compression and produce a calf pressure of 14–15 mmHg, and intermittent pneumatic compression. EvGr Anti-embolism stockings should be worn day and night until the patient is sufficiently mobile; they should not be offered to patients admitted with acute stroke or those with conditions such as peripheral arterial disease, peripheral neuropathy, severe leg oedema, or local conditions (e.g. gangrene, dermatitis).

When using pharmacological prophylaxis, in most cases, it should start as soon as possible or within 14 hours of admission. Patients with risk factors for bleeding (e.g. acute stroke, thrombocytopenia, acquired or untreated inherited bleeding disorders) should *only* receive pharmacological prophylaxis when their risk of venous thromboembolism outweighs their risk of bleeding. Patients receiving anticoagulant therapy who are at high risk of venous thromboembolism should be considered for prophylaxis if their anticoagulant therapy is interrupted, for example during the peri-operative period. A

For full guidance on prophylaxis of venous thromboembolism, see NICE guideline 89 (www.nice.org.uk/guidance/ng89).

Surgical patients

EvGr To reduce the risk of venous thromboembolism in surgical patients, regional anaesthesia over general anaesthesia should be used if possible.

Mechanical prophylaxis (e.g. anti-embolism stockings or intermittent pneumatic compression) should be offered to patients with major trauma, or undergoing cranial, abdominal, bariatric, thoracic, maxillofacial, ear, nose, and throat, cardiac or elective spinal surgery. Prophylaxis should continue until the patient is sufficiently mobile or discharged from hospital (or for 30 days in spinal injury, elective spinal surgery or cranial surgery). A Choice of mechanical prophylaxis depends on factors such as the type of surgery, suitability for the patient, and their condition.

EvGr Pharmacological prophylaxis should be considered in patients undergoing general or orthopaedic surgery when the risk of venous thromboembolism outweighs the risk of bleeding. A The choice of prophylaxis will depend on the type of surgery, suitability for the patient, and local policy. EvGr A low molecular weight heparin is suitable in all types of general and orthopaedic surgery; heparin (unfractionated) p. 143 is preferred in patients with renal impairment. Fondaparinux sodium p. 136 is an option for patients undergoing abdominal, bariatric, thoracic or cardiac surgery, or for patients with lower limb immobilisation or fragility fractures of the pelvis, hip or proximal femur.

Pharmacological prophylaxis in general surgery should usually continue for at least 7 days post-surgery, or until sufficient mobility has been re-established. Pharmacological prophylaxis should be extended to 28 days after major cancer surgery in the abdomen, and to 30 days in spinal surgery.

Mechanical prophylaxis with intermittent pneumatic compression should be considered when pharmacological prophylaxis is contra-indicated in patients undergoing lower limb amputation, or those with major trauma or fragility fractures of the pelvis, hip or proximal femur.

Patients undergoing an *elective hip replacement* should be given thromboprophylaxis with either a low molecular weight heparin administered for 10 days followed by low-dose aspirin p. 130 for a further 28 days, or a low molecular weight heparin administered for 28 days in combination with anti-embolism stockings until discharge, or rivaroxaban p. 137. If these options are unsuitable, apixaban p. 133 or dabigatran etexilate p. 146 can be considered as alternatives. If pharmacological prophylaxis is contra-indicated, anti-embolism stockings can be used until discharge.

Patients undergoing an *elective knee replacement* should be given thromboprophylaxis with either low-dose aspirin p. 130 for 14 days, or a low molecular weight heparin administered for 14 days in combination with anti-embolism stockings until discharge, or rivaroxaban. If these options are unsuitable, apixaban or dabigatran etexilate can be considered as alternatives. If pharmacological prophylaxis is contra-indicated, intermittent pneumatic compression can be used until the patient is mobile. A

Medical patients

The choice of prophylaxis will depend on the medical condition, suitability for the patient, and local policy. EvGr Acutely ill medical patients who are at high risk of venous thromboembolism should be offered pharmacological prophylaxis. Patients should be given either a low molecular weight heparin as a first-line option, or fondaparinux sodium as an alternative, for a minimum of 7 days. Patients with renal impairment should be given either a low molecular weight heparin or heparin (unfractionated) and the dose should be adjusted as necessary.

Mechanical prophylaxis can be considered when pharmacological prophylaxis is contra-indicated; their use should be continued until the patient is sufficiently mobile. In patients admitted with acute stroke, mechanical prophylaxis with intermittent pneumatic compression should be considered, as anti-embolism stockings are unsuitable in these patients; their use should be started within 3 days of the acute stroke and continued for 30 days, or until the patient is sufficiently mobile or discharged from hospital. A

Thromboprophylaxis in pregnancy

EvGr All pregnant women (who are not in active labour), or women who have given birth, had a miscarriage or termination of pregnancy during the past 6 weeks, with a risk of venous thromboembolism that outweighs the risk of bleeding should be considered for pharmacological prophylaxis with a low molecular weight heparin during hospital admission. In pregnant women, prophylaxis should be continued until there is no longer a risk of venous thromboembolism, or until discharge from hospital. Women who have given birth, had a miscarriage or termination of pregnancy during the past 6 weeks, should start thromboprophylaxis with a low molecular weight heparin 4–8 hours after the event, unless contra-indicated, and continue for a minimum of 7 days.

Additional mechanical prophylaxis should be considered for women who are likely to be immobilised or have significantly reduced mobility and continued until the woman is sufficiently mobile or discharged from hospital.