VENOUS THROMBOEMBOLISM PROPHYLAXIS AFTER TRAUMA

OVERVIEW

Venous thromboembolism (VTE) is a potentially serious and relatively common complication following major trauma. The current evidence in the literature for VTE prophylaxis after trauma is of limited quality. There are relatively few randomised controlled trials on trauma patients that show clear benefit from VTE prophylaxis. Current guidelines for trauma patients largely rely on expert opinion with the recommendations being based on the limited number of trauma studies available and being extrapolated from elective surgery studies.

Current guidelines recommend a combination of anticoagulation (LMWH or LDUH), compression devices and early mobilisation. Most guidelines suggest that the decision to start anticoagulation should be clinically weighed against the risk of bleeding for individual patients. The following are broad recommendations based on the evidence available with the key references listed below.

PRINCIPLES OF VTE PROPHYLAXIS IN TRAUMA

Use a combination of anticoagulation (LMWH or LDUH), compression devices and early mobilisation

Assess individual patient risk of VTE and individual risk of bleeding. If patient has suffered significant trauma and is being admitted to hospital then:

i) Commence LMWH 40mg daily (or LDUH 5000iu bd or tds) within 36 hours unless there is significant clinical risk of bleeding. LMWH is generally recommended as the preferred option in patients following moderate or major trauma. It is generally recommended that LMWH (or LDUH) should be commenced within a few days of injury (at treating doctor’s discretion) even in those trauma patients with relative contraindications. Potential contraindications to LMWH include:

   **Absolute**
   - intracranial bleeding
   - uncontrolled bleeding
   - coagulopathy (nb pre-existing conditions or medications)
   - incomplete spinal cord injury
   - allergy

   **Relative**
   - head injury without bleeding
   - haemothorax
   - solid organ injury with contusion or laceration
   - retroperitoneal haematoma with pelvic fracture
   - complete spinal cord injury
   - renal impairment (calculate Cr Cl)

ii) Commence graduated compression stockings unless contraindicated

iii) Consider intermittent pneumatic compression devices in OT or ICU or if LMWH contraindicated.

iv) Mobilise patient early

Key References

2. Velmahos GC ;The Current Status of Thromboprophylaxis after Trauma: A Story of Confusion and Uncertainty ; The American Surgeon ; Sept 2006