Surgery

Susmit

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Contents

Deep Vein Thrombosis (DVT)

Formation of semisolid coagulum in a deep vein.

Virchow's triad

- Abnormal surface (endothelial damage)
- Abnormal flow (stasis / turbulence)
- Abnormal blood (thrombophilia)

Factors

- Immobility
  - Age
  - Obesity
  - Prolonged surgery
  - Pregnancy
  - Puerperium
  - Varicosity (effect of immobility, the rest are causes)
- Hormone-replacement therapy (high oestrogen)
- Previous DVT / PE
- Thrombophilia

Common sites

- Popliteal vein
- Femoral ""
- Iliac ""

Prevention

- Early mobilization
- Hydration
- Compression stockings
- Prophylactic LMW heparin
- Calf pumps
- Minimal use of tourniquets

CABG

Investigations for IHD

- ECG (first line)
- Cardiac enzymes (in acute coronary syndrome)
- Exercise tolerance test
- Echo: Evaluate
  - ventricular function

  - regional wall motion abnormalities
  - valvular lesions
- **Coronary angiography: gold std**
  - Extent, severity and location of stenoses
  - 70% reduction of diameter (i.e. >90% reduction of cross-sec) => severe

Indications for surgery

- 50% stenosis of the left coronary artery ("*left main stem*")
- 50% stenosis of the proximal LAD
- 2/3 main coronary arteries diseased (RCA, LAD, LCx)

Graft selection

Types

- **Venous**: long saphenous vein
- **Arterial**:
  - LIMA most common (left internal mammary / left internal thoracic artery)
  - Others
    * RIMA
    * Radial
    * Gastroepiploic
    * Inf epigastric

Transfusion

Indications

- Acute blood loss
- Periop anaemia
- Symptomatic chronic anaemia

Complications

Single transfusion

- Haemolysis (haemolytic transfusion reaction)
- Fever (febrile transfusion reaction)
- Allergic reaction
- Infections
  - Hep B, C
  - HIV
  - Malaria
  - Bacterial inf
- Air embolism
- Thrombophlebitis
- TRALI

Massive transfusion

- Coagulopathy
- Hypothermia
- Hypo-Ca
- Hypo-K
- Hyper-K

Clinical factoids

- Target Hb level: 10g/dL
- 1 unit transfusion = 1g/dL improvement

Burns

Mechanism of fluid loss

Intense inflammation in burnt areas $\rightarrow$ $\uparrow$ permeability $\rightarrow$ leakage of fluid into extravascular compartment

Assessment

- Rule of 9:
  - First approx
  - Adult
    - Head-neck $\rightarrow$ 9%
    - Each upper limb $\rightarrow$ 9%
    - Torso front 18%
    - Torso back 18%
    - Each lower limb 18%
    - Perineum 1%
- Lund and Browder chart
  - More accurate
- For smaller burns, a piece of small paper about the size of the hand to measure the burnt area directly. Size of hand $\approx$ 1%.

Fluid resuscitation

Indications

- **If >10% TBSA in children or >15% TBSA in adults** (B&L)
- To correct hypovolaemia
- " " electrolyte imbalance
- To prevent shock
- To provide nutrition

Important anticancer drugs

- **Mitosis interferers**
    1. Vincristine
    2. Vinblastine
    3. Taxanes (e.g. Paclitaxel)
- **Antimetabolites** (i.e. DNA synthesis inhibitors)
    1. Methotrexate
    2. 5-FU
- **DNA damagers**
    1. Platinum drugs
        - Cisplatin
        - Carboplatin
        - Oxaloplatin
    2. Cyclophosphamide
    3. Bleomycin
    4. Doxorubicin
    5. Etoposide
- **Hormones**
    1. Tamoxifen: ER blocker (Breast ca)
    2. Goserelin: GnRH analogue; downregulate ant. pituitary $\rightarrow \downarrow$ testosterone (Prostate ca)
    3. Flutamide: Androgen antagonist (Prostate ca)
    4. Bromocriptine: D2 agonist; blocks ant. pituitary stimul (Pituitary tumour)