**Pulsatile Abdominal Mass**

Is it **EXPANSILE** or **TRANSMITTED** pulsation?

i.e, **aneurysm** or **mass adjacent to artery**?

**HISTORY of acute presentation**

- Sudden “ripping pain”
  - in abdomen (AAA)
  - in chest (aortic dissection)
- radiating to the back
- maximal at time of onset
- assoc. with syncope and/or stroke

**RISK FACTORS: same as for atherosclerosis**

- Hypertension
- Smoking
- Family history
- Diabetes

**RISK FACTORS FOR RUPTURE:**

- AAA larger than 6cm
- Increased MAP
- Smoking
- Poor lung function
- Being female

**PHYSICAL EXAM**

- **PULSATILE MASS**
- hypertension
- decreased pulses
- aortic regurg murmur
- cardiac tamponade signs
  (muffled heart sounds, tachycardia)

if it has ruptured:

- Haemoperitoneum (eg. distension + black navel)
- Classical haemorrhagic shock

**STATISTICS**

- Occurs in 1.5% of men over 65yrs;
- Responsible for 1.1% of deaths among them
- Mortality of ruptured AAA = 80%
- Mortality of elective repair = 5%
- Annual growth rate of an AA = ~0.2 cm

**INVESTIGATIONS**

- **DUPLEX ULTRASOUND** → diagnostic
- Trans-oesophageal echocardiography → for thoracic aorta
- CT scan → to eliminate differentials
- Plus consider ABGs, spirometry, EUC, sestamibi scan, coronary angiography etc.

**SURGICAL MANAGEMENT**

- Prepare bowels (empty)
- Antibiotics (for abdo surgery, amp + gent + flagg)
- Heparin (for vessel clamping)
- **MONITOR INTRAOPERATIVELY:**
  - Urine output
  - ECG
  - Arterial line pressure + saturation
  - Trans-oesophageal echocardiography
- **Three major approaches:**
  - **TRANSPERITONEAL** through anterior abdo wall
  - **RETROPERITONEAL** through left flank
  - **ENDOVASCULAR** through femoral artery
    (need clear arteries for this!)

**OUTCOMES of Surgery:**

- 15 to 40% ends up in complications
- 8-15 day recovery in hospital, 2-3months of recovery at home

**Differentials:**

- Abdominal wall swelling eg lipoma or hematoma
- epigastric hernia (@ linea alba)
- diverticulitis associated with hematochesia
- Liver tumour moves with respiration, hollow to percussion
- Renal tumour: moves with respiration, dull to percussion
- Retroperitoneal lymph nodes

**Types of aneurysm:**

**TRUE:**
- Vessel wall layers are intact

**FALSE:**
- Break in vessel wall, → bleeding into the vessel sheath
e. g. femoral artery puncture site

**DISSECTING:**
- Separation of layers with blood in between forming a false lumen

**TRIAGE:**

- Ruptured AAA → emergency surgery
- Tender AAA → urgent work-up
- Non-tender AAA → evaluate for repair

**Indications for surgery:**

- Tender AAA
- Over 5cm in diameter
- Greater than 1cm annual expansion
- Surgery is feasible in 30-50% of cases

**Complications of surgery:**

Cardiac events, respiratory failure, prolonged ileus, renal failure, limb ischaemia

ENDOLEAK: when blood still leaks through the graft wall – can be right after surgery, or develop later.