Aortic Dissection (AD)

How Common is Aortic Dissection?

- Rare – but we should think about it most days because the in-hospital mortality is 27% (increasing by 1% per hour that we miss the diagnosis)
- Because it is very rare it means that it is hard to have a reliable 'decision rule' or single clinical test that rules out the disease
- For every 1000 Myocardial Infarctions your get about 5 Aortic Dissections
- Incidence = 3 cases per 100 000 people per year

What is a typical AD case?

- More common in Older patients (>60 years old)
  - History of Hypertension
  - More common in males
  - Previous Cardiothoracic Surgery
  - Previous Trauma
- Younger patients
  - Collagen Diseases (Marfan's, Turner's Ehlers-Danlos)

What are the symptoms?

- Severe Chest Pain (90%)
- Sudden Onset/Maximal at Onset
- Sharp Pain/Tearing Pain/Radiates to back

What other features should alert you to the diagnosis?

- Syncope (10%), Murmur (32%)
  - Neurological Deficits (Stoke, Weakness)
- Inferior MI
- Cardiac Tamponade
- Pleural Effusion
- Other Symptoms - Dysphagia, Hoarseness, Horner's Syndrome, Pain both sides of the diaphragm

Classification

- Debakey I, II, III (see below in pictures and management)
- Stanford – A and B = 'A' has significant proximal Involvement

Tests

- CXR – Widened mediastinum (56-63%) - Of note 20% (IRAD study) (and up to 40% in some studies) have a normal CXR
- Echocardiography (TTE Point of care may have a role in ruling in)
- CT angiogram (most common test – requires leaving Resus bay)
- Other Tests (ECG, Aortogram on-table, MRI)

Management

- High Index of Suspicion is required for Diagnosis – move to Resuscitation Bay – IV /o2/Monitoring
- BP control – Beta Blocker and Vasodilator (need to reduced HR and wall stress) See - http://crashingpatient.com/medical-surgical/vascular/hypertension.htm
- Urgent Surgical Referral and Emergency Surgery Preparation in the ED
- Cautious Resuscitation as Required with Good Supportive Care
- Place lines and get consults from ICU and anaesthetics
- Avoid Anticoagulation (doubles mortality)

We Admit and Treat by the "Type of Dissection":

- Ascending "Type A" – urgent blood pressure control prior to transfer for operation
- Descending Type B – medical control of BP with beta blockers, with surgery or endovascular stent grafting for selected patients with an unfavourable outlook.