Pericardial disease

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(1) Acute Pericarditis

- ***Etiology*** = a) idiopathic pericarditis
  b) infectious pericarditis (mostly viral (always preceded by flulike illness), bacterial, fungal, tuberculous etc)
  c) metabolic disorders (uremic pericarditis, hypothyroidism etc)
  d) neoplastic pericardial disease
  e) pericardial disease in vasculitis/connective tissue disease (due to inflammation of blood vessels by immune complex eg. Rheumatoid arthritis, SLE)
  f) myocardial infarction – associated pericarditis (usually larger infarct, with new pleuritic chest pain, pericardial rub etc.)
  g) traumatic pericardial disease

Symptoms **= mostly 1-3 weeks after upper respiratory or gastrointestinal syndrome.**

- **chest pain exacerbated by inspiration, cough, recumbency (patient sit up for relief) and exertion, tenderness, dysphagia**
- **fever, chill, weakness, anxiety**
- **“pericardial rub”, pleural effusion**
- **electrocardiogram =**

  Stage I : diffuse J-point ST elevation and PR segment depression

  Stage II : return to baseline

  Stage III : T wave inversion

  Stage IV : return to prepericarditis stage

  (EKG evolve over hours, days or weeks)
- **elevated acute-phase reactants (leukocytosis, ESR, CRP)**
- **elevated myocardial enzymes (CKMB, troponin)**

- ***Treatment*= nonsteroidal antiinflammatory drugs (NSAID), corticosteroid (if connective tissue disease), colchicine**

(2) Pericardial effusion

- ***Etiology*= pericardial inflammation and irritation due to tumor, tuberculosis, cholesterol pericarditits, myxedema, vasculitis/connective tissue disease, uremic pericarditis etc.**
- **Transudate or exudate. Large effusion usually follow venous or lymphatic obstruction in epicardium.**
- ***"Ewart sign"* = dullness and bronchial breathing between left scapula and spine, if very large pericardial effusion**
- **X-ray = "water bottle" silhouette**
- ***Treatment* = pericardiocentesis, pericardial drainage**

(3) Cardiac tamponade

- Due to pericardial disease of almost any etiology
- ***Symptoms*** = chest discomfort, tachypnea, dyspnea, air hunger, conscious change, weakness
- Distant heart sound, hypotension
- Ewart sign
- ***Pulsus paradoxus*** = drop in systolic arterial pressure (≥ 10 mmHg) upon inspiration
- ***Electrical alternation*** = QRS alternation, pathognomonic of tamponade

Suspect cardiac tamponade if:

- **unexplained shock and elevated systemic venous pressure**
- **unexplained low or falling blood pressure**
- **pulsus paradoxus, electrical alternation**
- **unexplained tachycardia, dyspnea or tachypnea**
- **recent or concurrent pericarditis and unexplained “cardiac” enlargement**
- **diastolic pressure equilibration of atrium and ventricle**

Treatment **= prompt evacuation of pericardial contents (pericardiocentesis or surgical drainage)**

(4) Pericardial adhesions, fibrosis, calcification

- ***Etiology*** **= following cardiac surgery (most common) or all forms of pericarditis**

(5) Constrictive pericarditis

- ***Etiology*** **= antecedent pericarditis such as : idiopathic (majority), infectious, neoplasia, uremia, vasculitis/connective tissue disease, myocardial infarct-related, trauma, drugs (procainamide, methysergide, hydralazine)**
- **Jugular venous distention (hallmark) and Kussmaul's sign (= inspiratory jugular venous distention)**

- ***Catherterization*** = square-root configuration or dip-plateau of left ventricular and right ventricular diastolic pressures. Characteristic right atrial curve with y descent > x descent
- ***Symptoms*** = resemble right-sided heart failure such as pedal edema, ascite, dyspnea, fatigability, orthopnea etc.
- ***Treatment*** = antiinflammatory drugs. Surgery is definitive (removal of pericardium)