

# Pericardial Disease

## 15e - Pericardial disease

### Acute pericarditis:

- Inflammation of pericardium which may be primary or secondary to systemic diseases
- Causes :
  1. Viruses (coxsackie, flu, EBV, mumps, varicella, HIV)
  2. Bacteria (pneumonia, rheumatic fever, TB)
  3. Fungi
  4. Myocardial infarction
  5. Others: uremia, Rheumatoid arthritis, SLE, myxedema, trauma, surgery, malignancy, radiotherapy

### Clinical feature:

- Central chest pain worse on inspiration or lying flat - relieved by sitting forward
- Pericardial friction rub may be heard
- Look for evidence of pericardial effusion or cardiac tamponade
- Fever may occur

### Test:

- ECG - classically shows concave (saddle-shaped) ST segment elevation, non spec
- Blood test - FBC, ESR, U&E, cardiac enzymes, viral serology, blood cultures, TFT
- ECHO

### Treatment:

- Analgesia - ibuprofen
- Treat the cause
- Consider colchicine before steroids/immunosuppressant

### Pericardial effusions:

- Accumulation of fluid in the pericardial sac
- Cause : any cause of pericarditis
- Clinical pictures:
  - Dyspnea, raised JVP, bronchial breathing, look for sign of cardiac tamponade

### Diagnosis:

- CXR - enlarged, globular heart
- ECG - low voltage QRS complexes and alternating QRS morphologies
- ECHO - echo-free zone surrounding the heart

### Management:

- Treat the cause
- Pericardiocentesis may be diagnostic or therapeutic
- Send pericardial fluid for culture, ZN stain/TB culture, cytology

### Constrictive pericarditis:

- The heart is encased in rigid pericardium
- Causes: often unknown - TB or after any pericarditis
- Clinical pictures:
  1. Often RHF with increase JVP, Kussmaul sign
  2. Soft, diffuse apex beat, quiet heart sound
  3. Diastolic pericardial knock
  4. Hepatosplenomegaly, ascites, edema

### Test:

- CXR - small heart +/- pericardial calcification
- ECHO
- Cardiac catheterization

Management : surgical excision

### Cardiac tamponade:

- Accumulation of pericardial fluid raises intra-pericardial pressure, hence poor ventricular filling and fall in cardiac output
- Causes:
  1. Any pericarditis
  2. Aortic dissection

3. Hemodialysis
4. Warfarin
5. Transseptal puncture at cardiac catheterization
6. Post cardiac biopsy

Sign:

- Pulse increase, bp decreases, pulsus paradoxus, JVP increases, Kussmaul's sign,
- Muffled S1&S2

Diagnosis:

- Beck's triad: falling bp, rising JVP, small, quiet heart
- Big globular heart ( if > 250ml fluid)
- ECG - low voltage QRS +/- electrical alternans
- ECHO - diagnostic, echo-free zone around the heart, diastolic collapse of RA&RV

Management :

- Seek expert help
- Urgent drainage
- Send fluid for culture, ZN stain/TB culture and cytology

## References

- OHCM - Cardiovascular medicine, page 140
- OHCM - practical procedure, pericardiocentesis, page 761

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