

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 encase in rigid pericardium
- Causes: often unknown – TB or after any pericarditis
- Clinical pictures:
 1. Often RHF with increase JVP, Kausmaul 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. Haemodialysis
 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