

Pericardial Diseases

Pericardial Diseases

- Objectives:
 - 1- you have to Know the clinical presentation of pericardial diseases.
 - 2- you have to be able to differentiate between pericarditis & Acute MI by history,examination &investigations.
 - 3- Recognition the signs & symptoms of cardiac tamponade &its treatments.
 - 4- The ECG changes in pericarditis & tamponade .

pericarditis

Incidence 2 - 6%

males > females

1- Acute : < 1 month

2- Recurrent : 1 month - 3 months with a remission period
(4-6 weeks symptoms free interval)

3- Incessant : 1 month - 3 months without a remission
period

2- chronic : > 3 months

Aetiology

- 1- Idiopathic
- 2- Infections : viral , bacterial , fungal.
- 3- Immuno-Inflammatory : CT diseases , rheumatic fever, post MI (Late = dressler's syndrome) , post cardiac surgery & drug induced.
- 4- Others : malignancy , radiation, uremia

Clinical Features

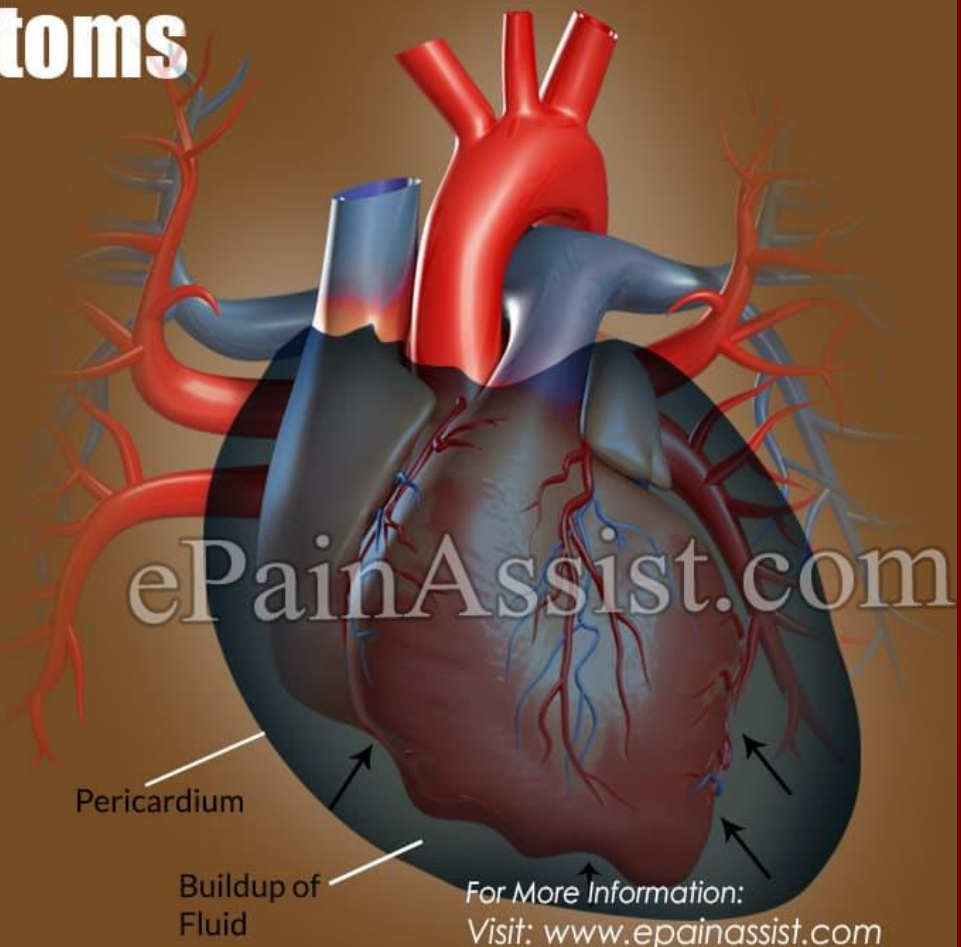
- Symptoms:

- chest pain : pleuritic , radiates to trapezius , relieved by leaning forward and increases in supine position
- Antecedent viral syndrome
- Symptoms of complications

- Physical Signs:

Fever , sinus tachycardia, pericardial rub.

What are the Symptoms of Pericarditis?



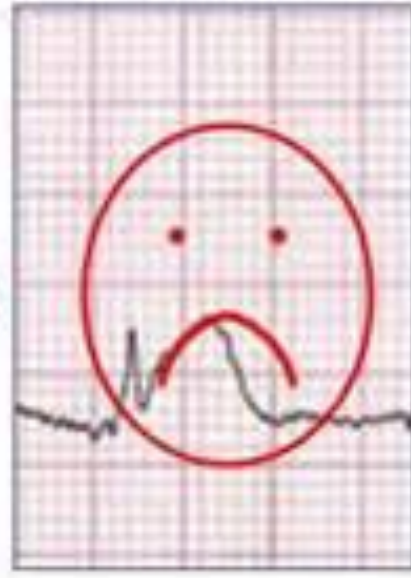
Investigations

■ ECG :

- Stage 1 : first week : Concave Diffuse ST elevation and PR depression except V1 and aVR (PR elevation and ST depression)
- Stage 2 : 1-3 weeks : Normalization of ST and flattening of T wave
- Stage 3 : 3 weeks-several weeks : T inversion
- Stage 4 : after several weeks : Normal ECG

ECG IN Pericarditis





- CBC : leukcytosis , lymphocytosis
- Inflammatory markers : raised ESR , CRP
- Cardiac biomarkers : troponin
 - ❖ Associated myocarditis
 - ❖ Post-myocardial infarction pericarditis

■ Chest X-ray :

- Usually normal unless associated large pericardial effusion.
- Etiology : TB , malignancy

■ ECHO :

- Normal in most patients or mild pericardial effusion, LV dysfunction (if associated moderate- severe myocarditis)
- Etiology : e.g myocardial infarction ; malignancy

Massive pericardial effusion



A



Diagnosis

We can make a diagnosis if you have ≥ 2 of 4:

- 1) Typical chest pain
- 2) Pericardial friction rub
- 3) Typical ECG changes
- 4) Pericardial effusion.

Treatment

- NSAIDs : Ibuprofen , High dose Aspirin : for 1-2 weeks then gradual tapering
- Colchicine : for all cases of acute idiopathic/ viral pericarditis for 3 months
- Steroid : only for recurrent and chronic pericarditis (Not use as a first line)
- Exercise restriction until resolution os symptoms, ECG and CRP

Treatment

- **Pericardiocentesis :**
 - Tamponade
 - Suspected bacterial or neoplastic
 - Large pericardial effusion
 - Chronic pericardial effusion (> 3 months)

Treatment

- **Specific therapy to underlying cause :**
 - Antibiotics for bacterial pericarditis according C&S
 - Anti TB therapy for TB pericarditis.
 - Uremic pericarditis : start or intensify hemodialysis

Complications

- 1- Effusion & Tamonade .
- 2- Constrictive pericarditis.
- 3- Relapsing & recurrence in 15 -30%.

PERICARDIAL EFFUSION

- Clinical features:
 - 1- Asymptomatic in chronic effusion.
 - 2- pericardial pain .
 - 3- dyspnea .
 - 4- symptoms due to underlying cause.
 - 5- Symptoms due to Tamponade.

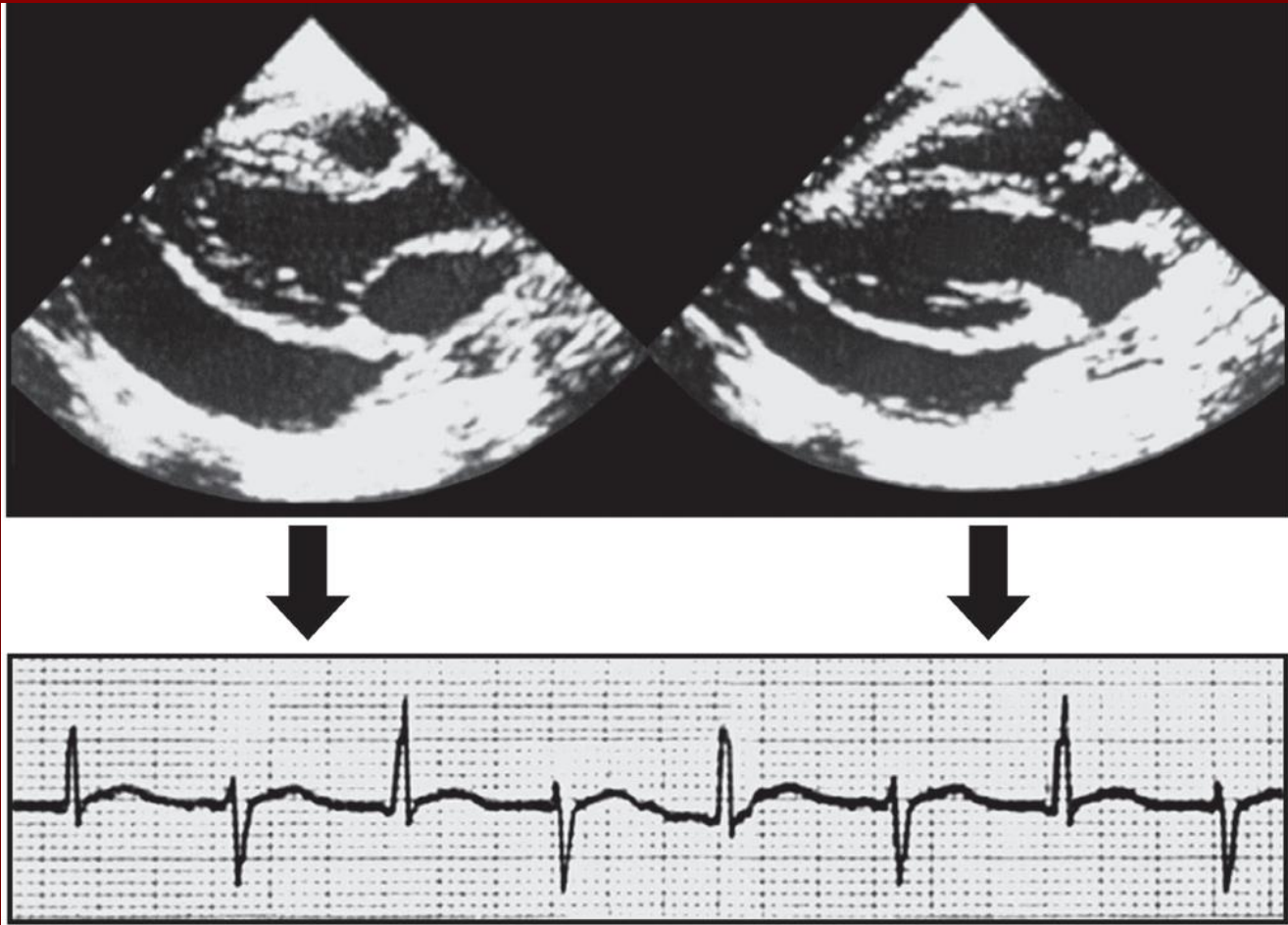
SIGNS OF TAMPONADE

- 1- Dyspnea & tachypnea.
- 2- Pulsus paradoxus
- 3- Markedly raised JVP
- 4- Muffled heart sounds
- 5- Shock state
- 6- PEA

LAB Tests

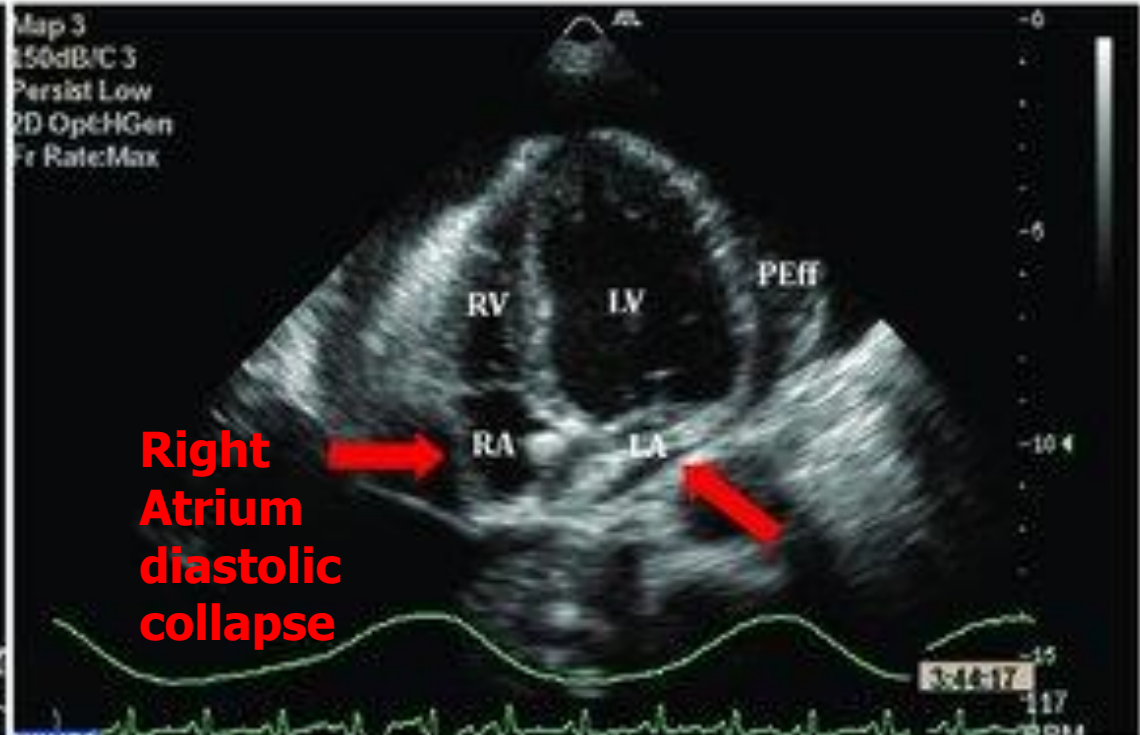
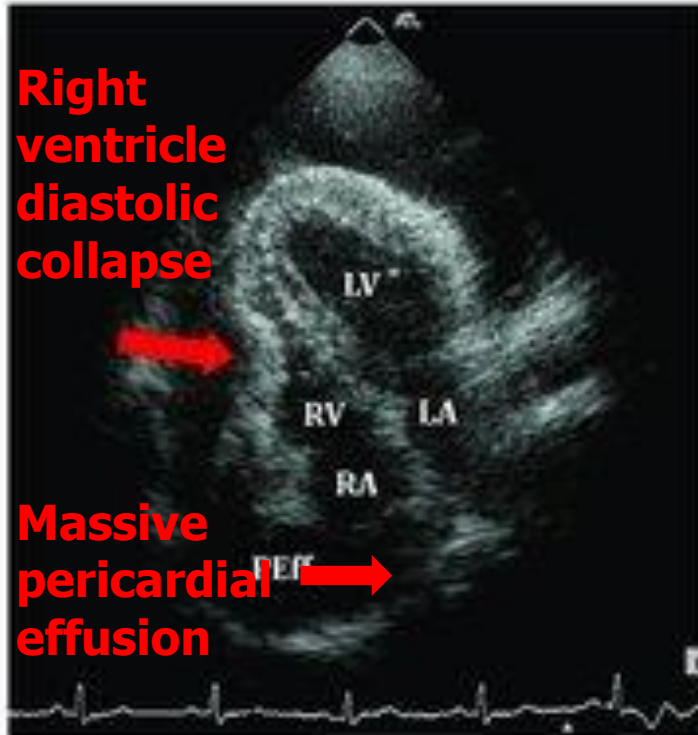
- 1- ECG :low voltage , electric alternance of QRS complexes.
- 2- Chest x-ray : large globular heart.
- 3- Echocardiography
- 4- CT & MRI , amount of fluid & pericardial thickness.

Cardiac Tamponade

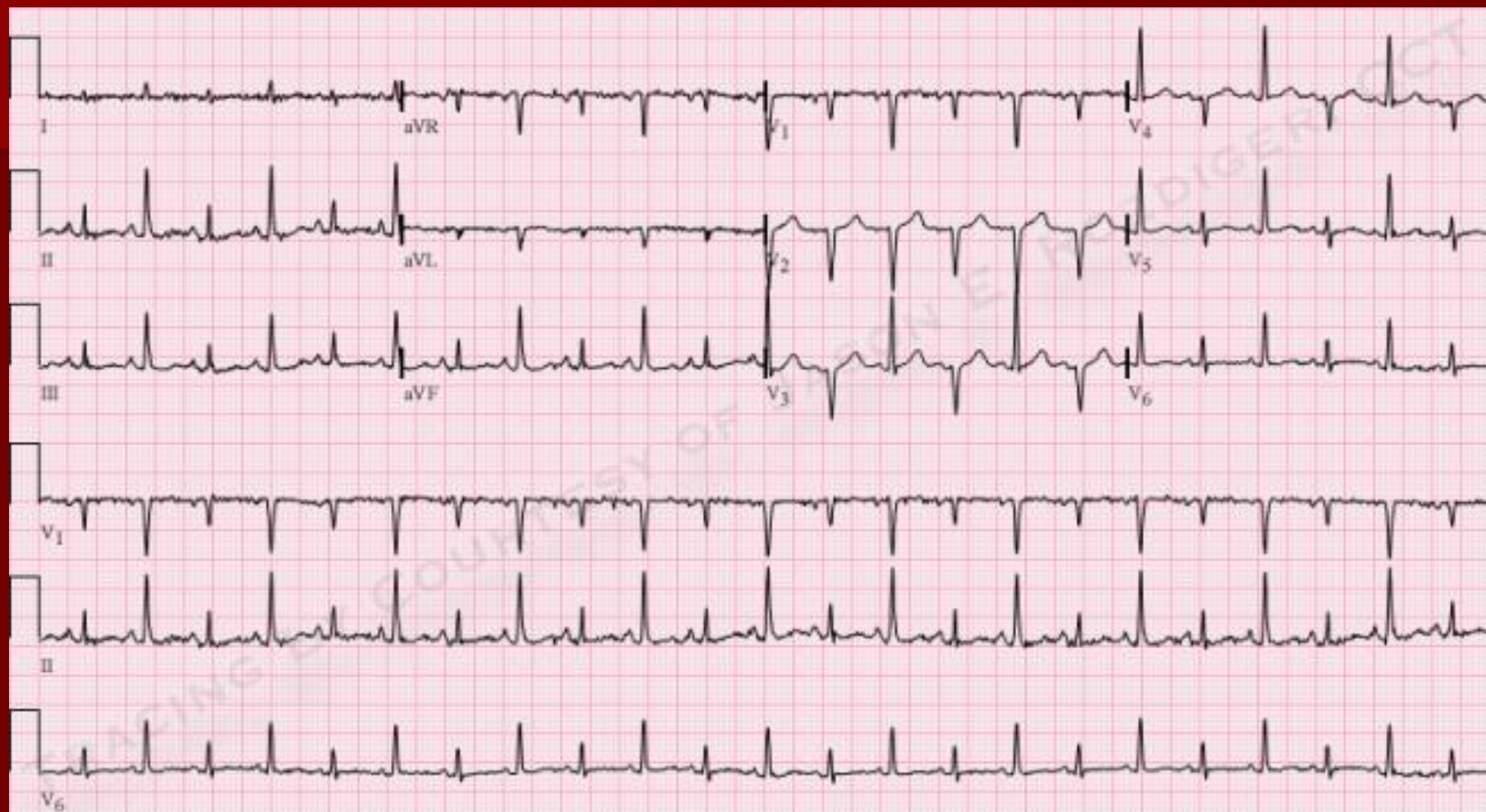


**Right
ventricle
diastolic
collapse**

**Massive
pericardial
effusion**



**Right
Atrium
diastolic
collapse**



LAB Tests

- Pericardial fluid analysis:
WBCs & differential count, sugar & protein, cytology, gram stain, C&S, AFB, adenosin deaminase enzyme activity & PCR.

TREATMENT

- 1- Mild pericardial effusion & no signs of tamponade : conservative therapy & follow up.
- Pericardiocentesis :

Differential diagnosis of cardiac Tamponade

- 1- acute massive pulmonary embolism.
- 2- acute right ventricular infarction.
- 3- acute severe bronchial asthma.
- 4- severe right ventricular failure.

Question

- 50 years old male patient with recent anterior MI 3 weeks ago presented with history of pleuro-pericardial pain 2 days duration, fever ,arthralgia .
ESR=100mm/h .
WBCs count =12000/cmm.
1-what is the diagnosis?
2-how you confirm the diagnosis?
3-what is your treatment?