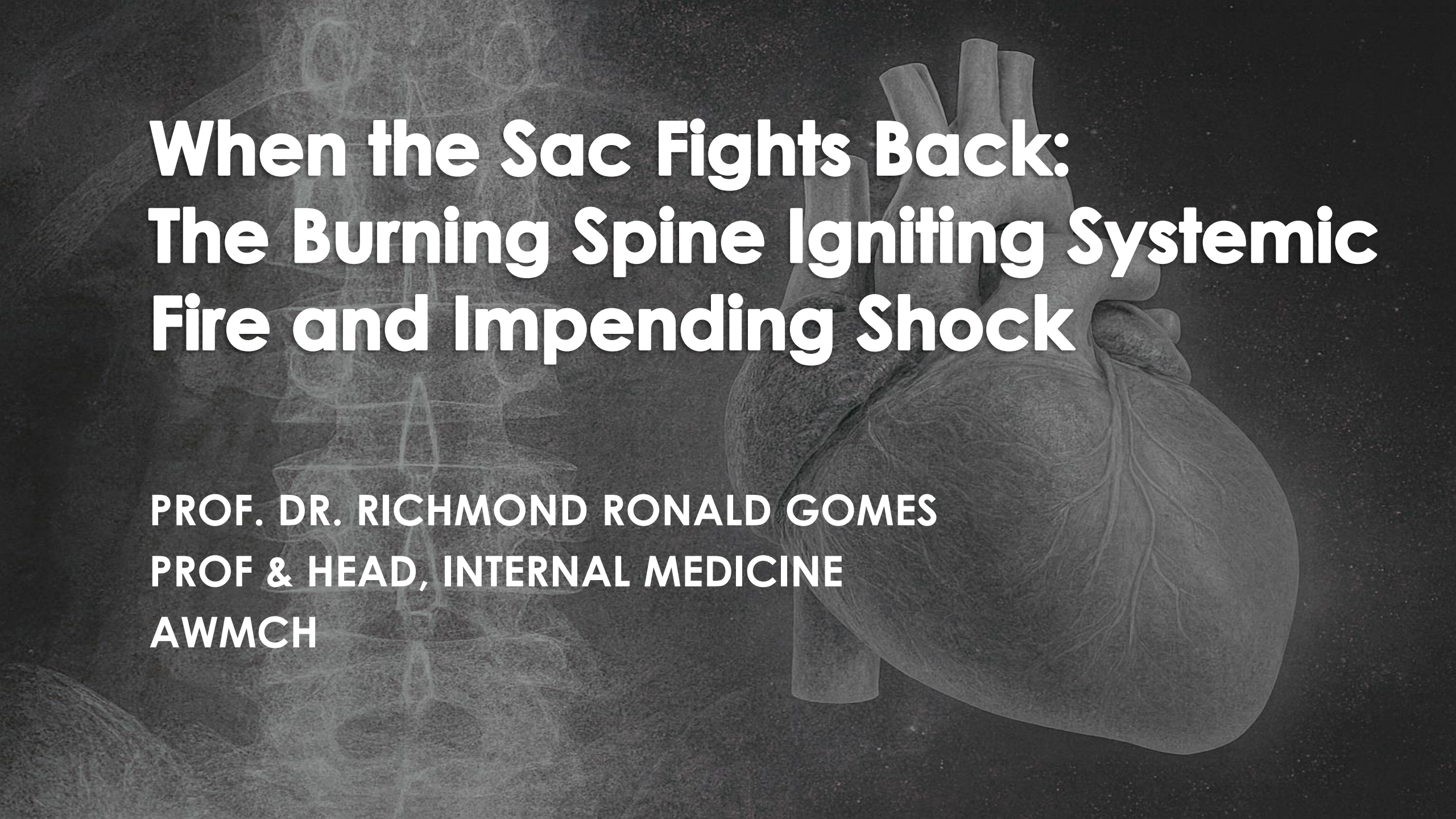

CME



When the Sac Fights Back: The Burning Spine Igniting Systemic Fire and Impending Shock

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PARTICULARS OF PATIENT

- Name: Mr. X
- Age: 40 years
- Gender: male
- Marital status: married
- Religion: Islam
- Occupation: service holder
- Address: Dhaka
- Date of admission: 05.08.2025
- Date of examination: 06.08.2025

CHIEF COMPLAINTS

- Fever for 3 days
- Chest tightness for 2 days
- Breathlessness for 1 day

HOSPITAL COURSE

- According to the statement of the patient, he is a known case of Ankylosing Spondylitis (radiographic ax-SpA, HLA-B27 positive) for last 03 years and is on regular rheumatological follow up.

HOSPITAL COURSE

- His joint symptoms were in remission with Tofacitinib 5mg twice daily. The patient was admitted to the AWMC Hospital with a 3-days history of high-grade, intermittent fever not associated with chills and rigors.

- The maximum documented temperature was 101°F, which subsided by taking of antipyretics.

HOSPITAL COURSE

- The patient also reported compressive type of chest tightness, but not chest pain, specially on the left side for 2 days .

- But he denied any radiation. It was associated with nausea but not with vomiting. It was aggravated by lying supine and deep inspiration, also partially relieved by sitting upright and leaning forward.

HOSPITAL COURSE

- The patient also reported progressive shortness of breath for 1 day.
- Initially it occurred during moderate exertion and subsequently it progressed to such extent that now patient is feeling shortness of breath even at rest.
- Orthopnea was present as well.

HOSPITAL COURSE

- He denied any history of headache, body ache, cough, palpitation, weight loss, altered consciousness, recent thoracic trauma, oral ulcers, photosensitivity, rash.

- His bowel and bladder habits were normal.

HOSPITAL COURSE

- He is a nonsmoker, nonalcoholic and denied any substance abuse.
- He gave no history of contact with patient with active tuberculosis
- All his family members are in good health.
- He comes from a middle-class family, lives in a brick-built building with filtered water supply and proper sanitation.

GENERAL EXAMINATION

- Appearance: Ill looking, **dyspneic**
- Body build: Average(Weight 65 kg, height 165.86cm, BMI:23.8kg/m2)
- Co-operation: Co-operative
- Decubitus: Sitting
- Anemia: Absent
- Jaundice: Absent
- Cyanosis: Absent
- Clubbing: Absent

GENERAL EXAMINATION

- Koilonychia: Absent
- Leuconychia: Absent
- Edema: Absent
- Dehydration: Absent
- Hair distribution: Normal
- Lymph node: Not palpable
- Thyroid gland: Not enlarged

GENERAL EXAMINATION

- JVP: **Elevated, about 8 cm from sternal angle, hepatojugular reflux was present.**
- Blood pressure: **80/70mmHg**
- Pulse:**110 b/m, regular rhythm, low volume**
- Temp:100º F
- Respiratory rate:**26 breaths/min**
- SaO2: **87% in room air, 93% with 4 liters of oxygen**
- Periphery: **Cold, Sweaty**

CARDIOVASCULAR SYSTEM

Inspection:

- There was no chest deformity, No scar marks, or visible cardiac impulse

Palpation:

- Apex beat location, left parasternal heave and palpable P2: could not be performed due to worsening orthopnea
- Thrill: Absent

CARDIOVASCULAR SYSTEM

Auscultation:

- Muffled 1st and 2nd heart sound.

- No added sound or murmur was present.

RESPIRATORY SYSTEM

Inspection:

- Patient is dyspneic with prominent accessory muscles of respiration
- Shape of the chest was normal

Palpation:

- No tracheal deviation to either side of chest.

RESPIRATORY SYSTEM

Percussion:

- Resonant all over chest

Auscultation:

- Breath sound : Vesicular all over chest with no added sounds

OTHER SYSTEMS

- Other system examinations findings revealed no abnormalities

PROVISIONAL DIAGNOSIS

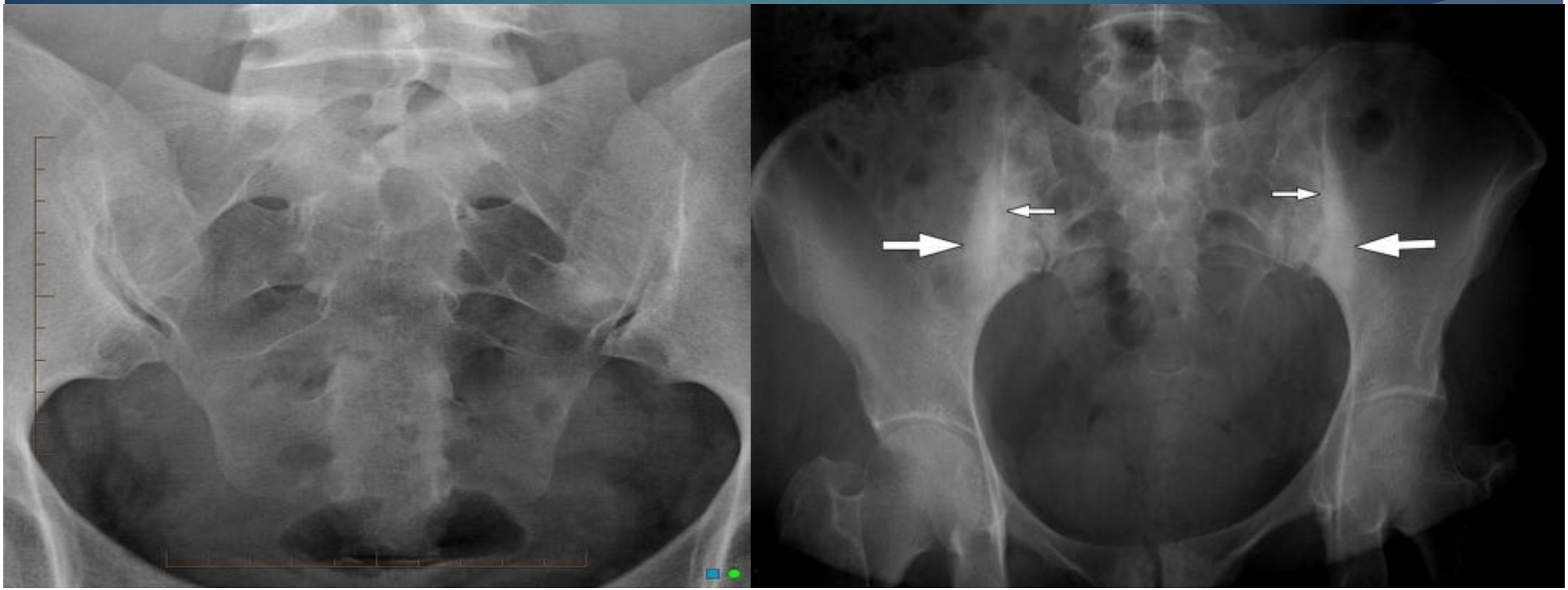
- Viral Myocarditis with Cardiogenic Shock

DIFFERENTIAL DIAGNOSIS

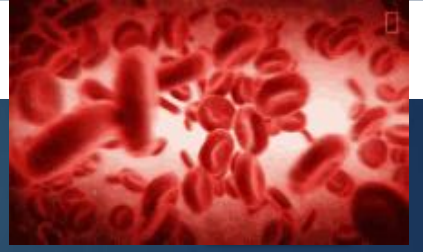
- Expanded Dengue Syndrome with Dengue Shock Syndrome
- Sepsis with Septic Shock

INVESTIGATIONS

Radiography of B/L Sacroiliitis



COMPLETE BLOOD COUNT



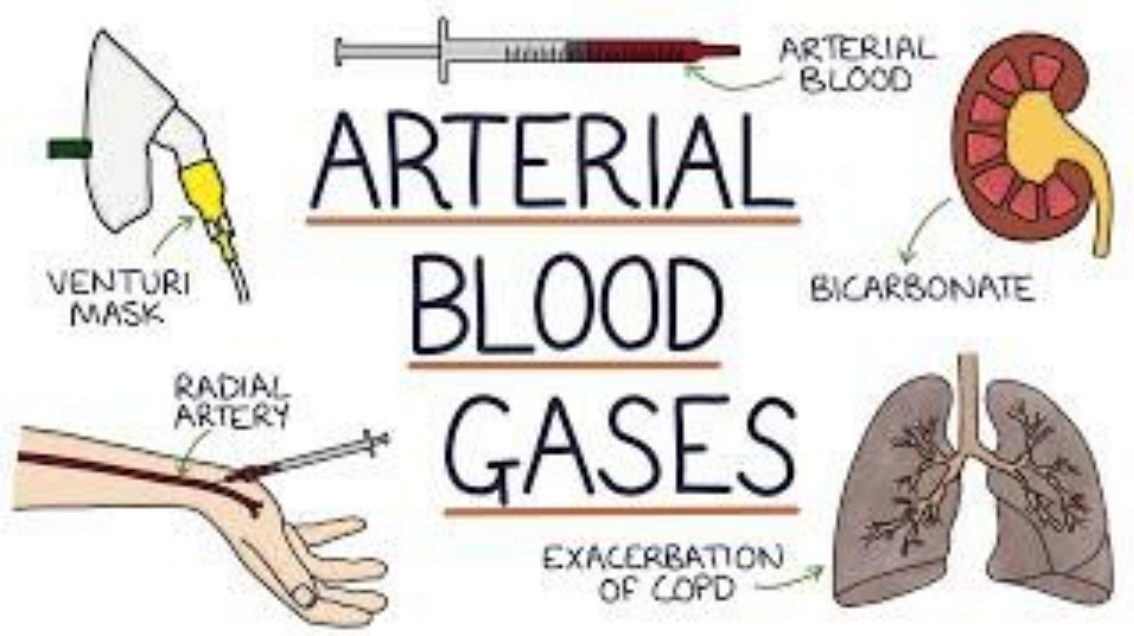
- Hb% : **10g/dl**
- WBC count: 6.74×10^3 /uL
- Neutrophil: 77%
- Lymphocyte: 15%
- Monocyte: 07%
- RBC: 4.28M/µL
- MCV: 86fL
- MCH: 29 pcg
- HCT: 33.3%
- Platelet count: 208×10^3 /uL
- ESR: **95 mm in 1st hr**

OTHER BLOOD TESTS

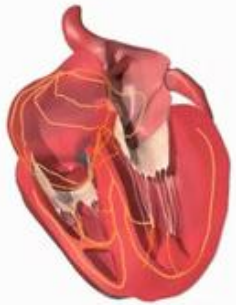
- **Pro BNP: 605.3 pg/mL (normal <400 pg/mL)**
- **CRP: 100.73mg/L mL (normal < 5 mg/L)**
- S. Creatinine: 1.1mg/dl
- SGPT:43 U/
- Trop –i: <0.001 ng/ml
- **Dengue NS1 antigen: Negative**

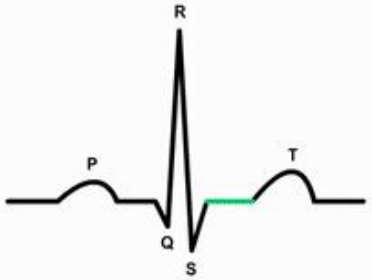
ABG

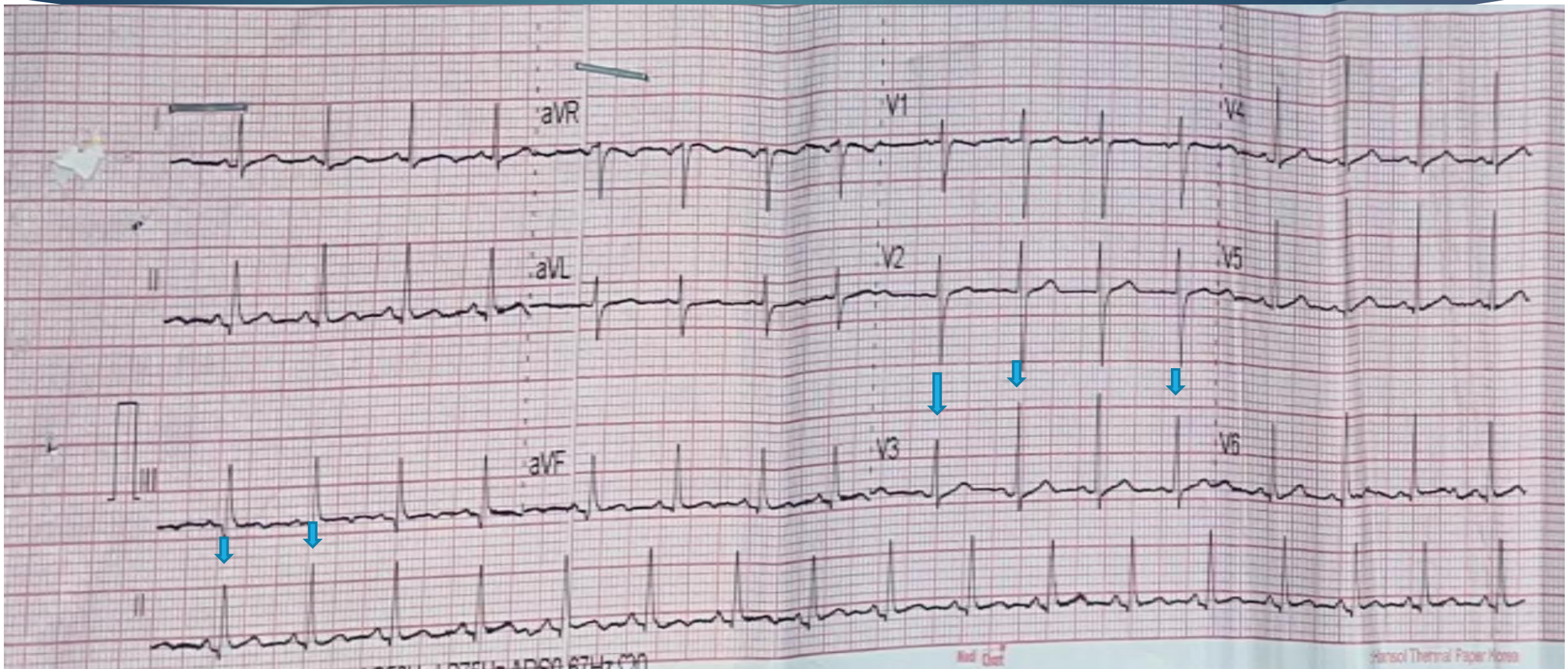
- pH: 7.41
- PO2: 58 mm of Hg (normal 80-100 mm of Hg)
- PCO2: 31 mm of Hg (normal 35-45 mm of Hg)



ECG

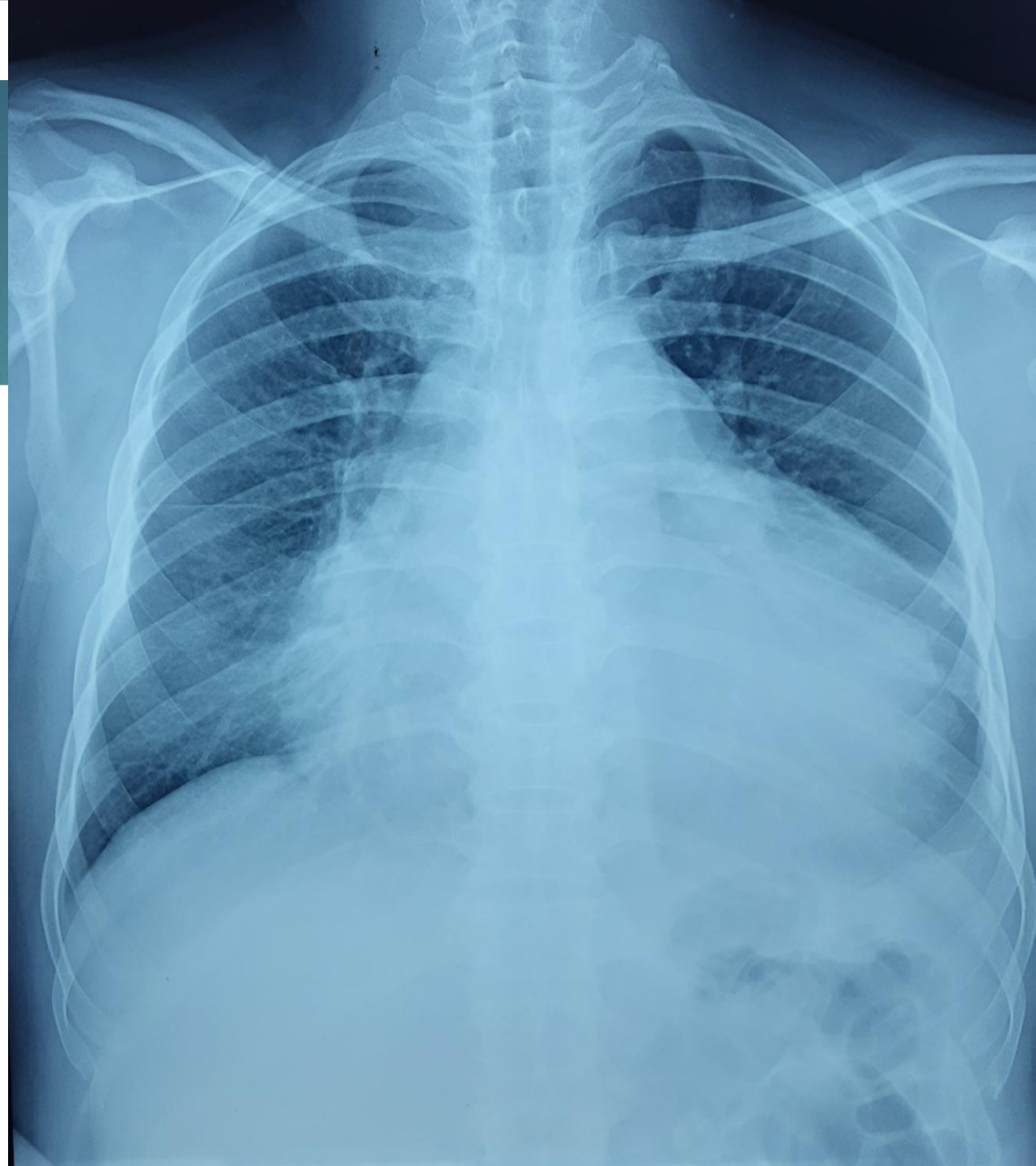




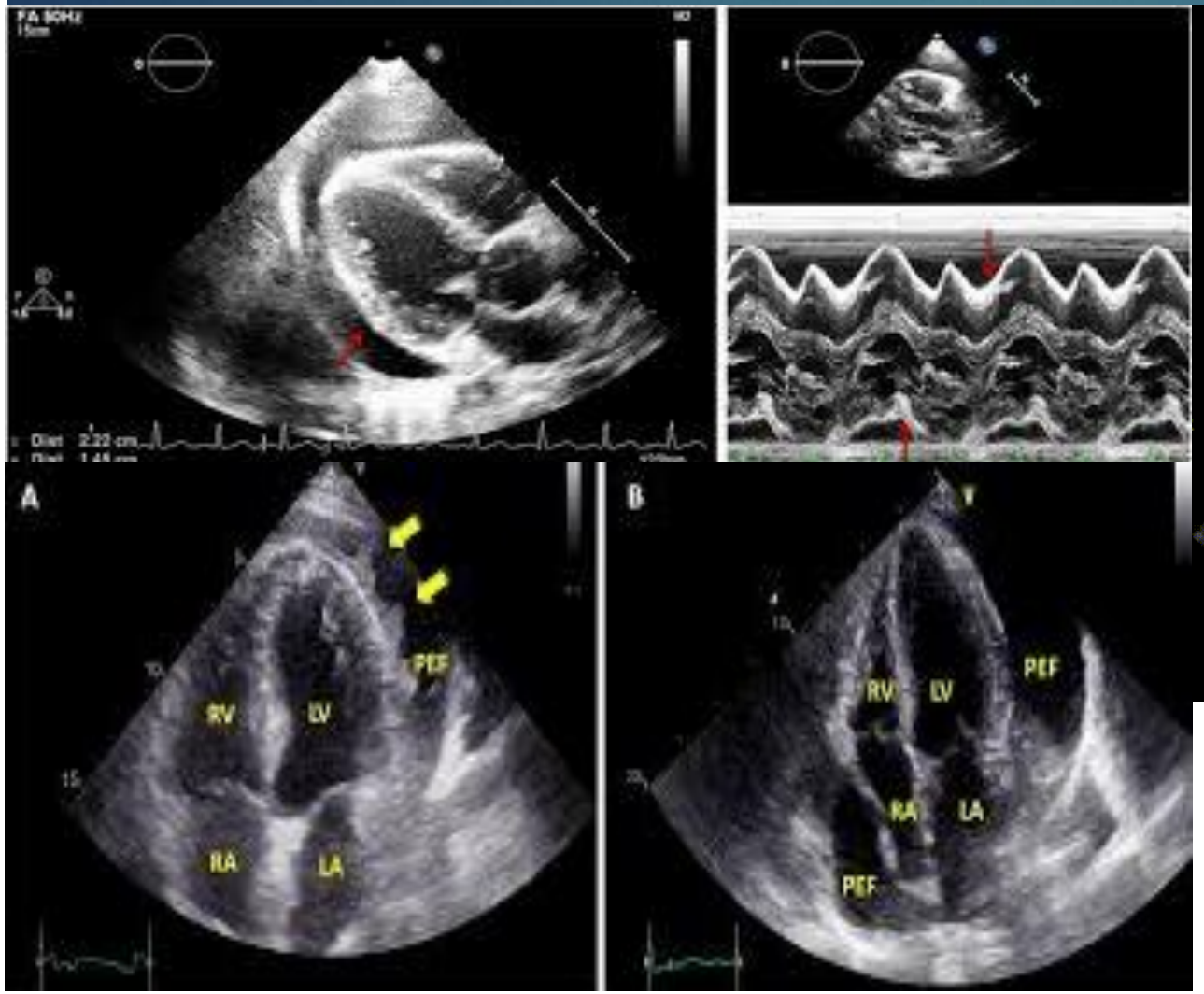


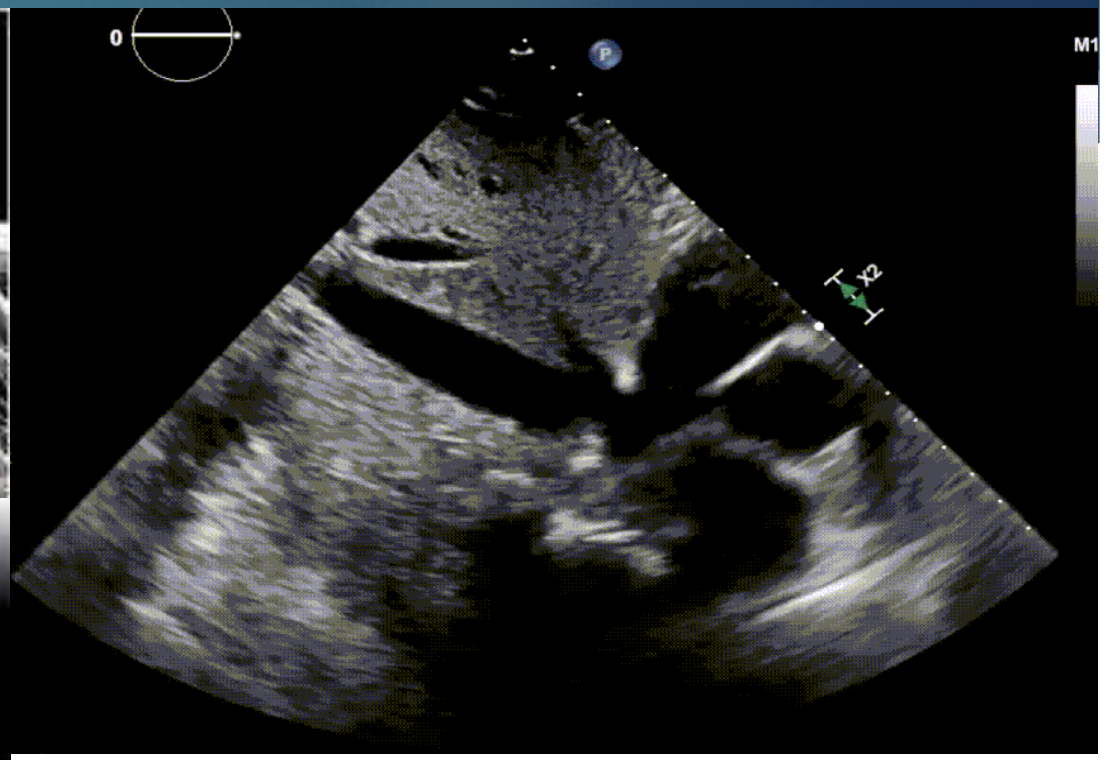
CHEST X-RAY

- Enlarged cardiac silhouette
- Fullness of pulmonary conus



Echocardiography





- Severe pericardial effusion(40 mm along posterior wall) is seen
- Diastolic collapse of RV and RA
- Good LV systolic function with LVEF 62%
- Suggestive of **Cardiac Tamponade**

- Patient was referred urgently to NICVD for immediate pericardiocentesis. There about 1400 ml of pericardial fluid was aspirated through subxiphoid approach and pericardial fluid was sent for protein, glucose, cell count, Gram stain, ZN stain, ADA, malignant cell and gene Xpert TB.

- Regular contact was being maintained with patient's family. After pericardiocentesis, he returned to Ad-din hospital for readmission.

PERICARDIAL FLUID STUDY

Physical examination:

- Quantity: 1.5 ml
- Appearance: **Reddish**

Microscopic Examination:

- RBC: **Plenty/cmm**
- Total WBC count : **500 cells/cmm**
- Differential count: Polymorphs 45%

Lymphocytes: 55%

PERICARDIAL FLUID STUDY

- Zeihl Neelsen stain: AFB not found
- Gram Stain: No Microorganism is seen.
- Protein : **7.1g/dl** (normal <2.8 g/dl)
- Glucose : **23.4 mg/dl** (normal 80-140 mgdl)
- ADA: **41.89U/L** (normal <12 U/L)
- Gene Xpert TB: **Detected** with no resistance to rifampicin

Cytology:

- Few neutrophils and reactive mesothelial cells
- No malignant cell is seen

CONFIRMATORY DIAGNOSIS

Obstructive Shock due to Cardiac Tamponade secondary to Tubercular Massive Pericardial Effusion S/P Pericardiocentesis (Possible reactivation of Latent Tuberculosis due to Tofacitinib therapy) with Ankylosing Spondylitis (Radiographic ax-SpA, HLA B27 positive)

TREATMENT

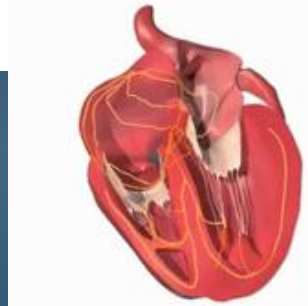
- Patient was started anti-tubercular chemotherapy in a fixed dose combination form according to weight along with prednisolone (1 mg/kg/day) and pyridoxine.
- There is plan to give anti TB treatment for 6 months(2 months initial intensive phase with 4 drugs followed by continuation phase for 4 months with 2 drugs.
- Steroid will be continued for 3 weeks with gradual tapering over next 5 weeks.

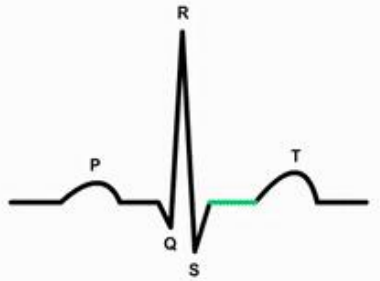
TREATMENT

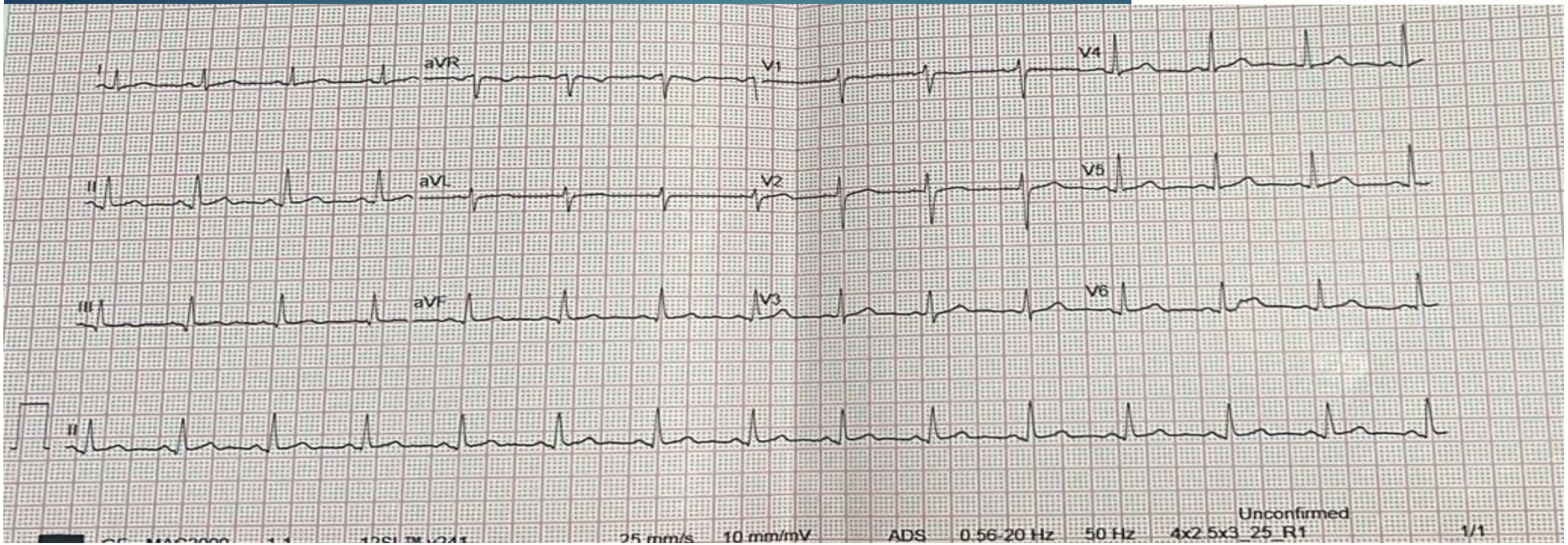
- Tab. Tofacitinib was stopped temporarily. There is a plan to restart it after 6 months of completion of anti tubercular therapy.

- After 5 days of initiating anti-tubercular therapy, the patient showed significant clinical improvement with improved wellbeing, increased appetite, subsidence of fever, supported by a reduction in CRP (22.3 mg/dl).

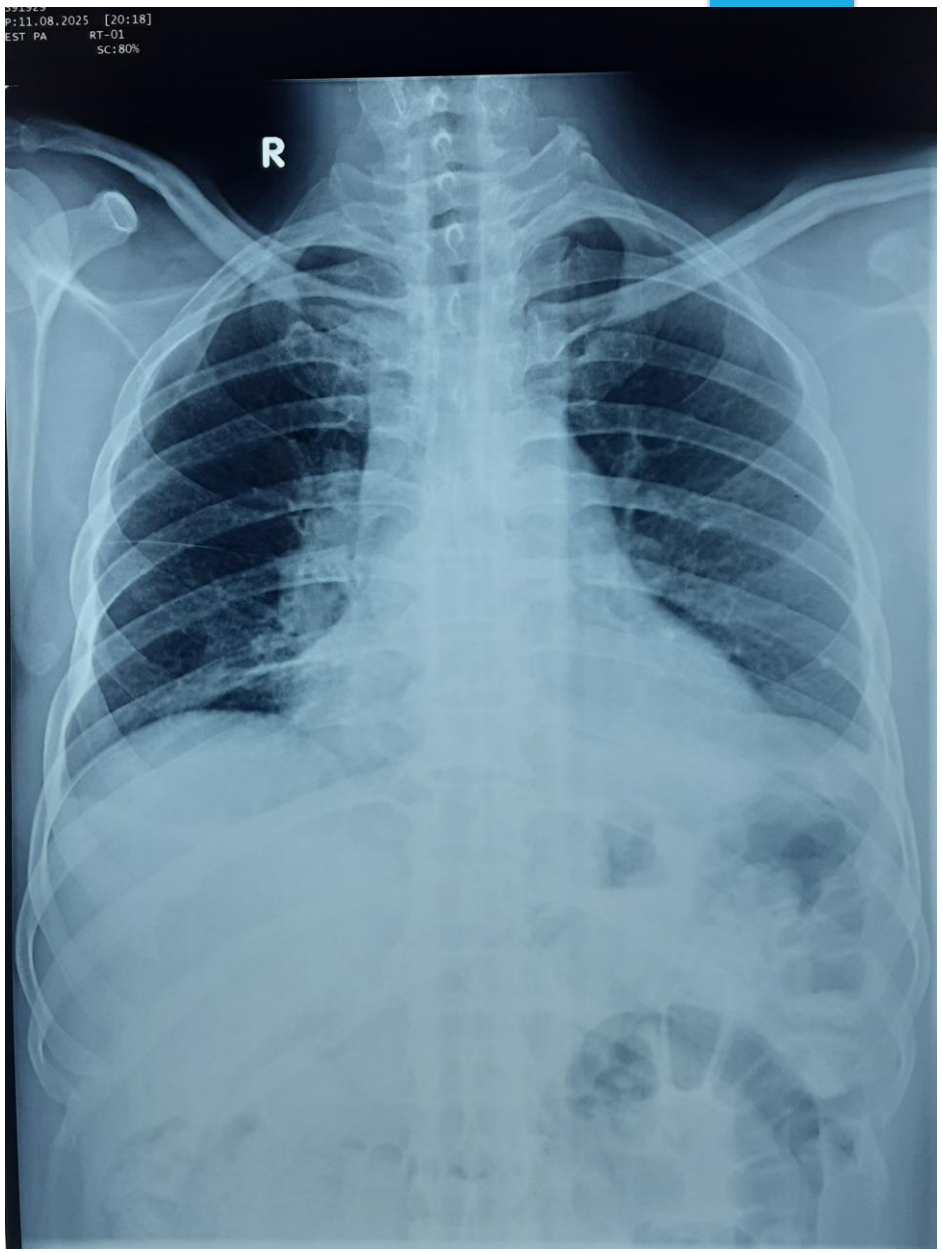
ECG DURING DISCHARGE



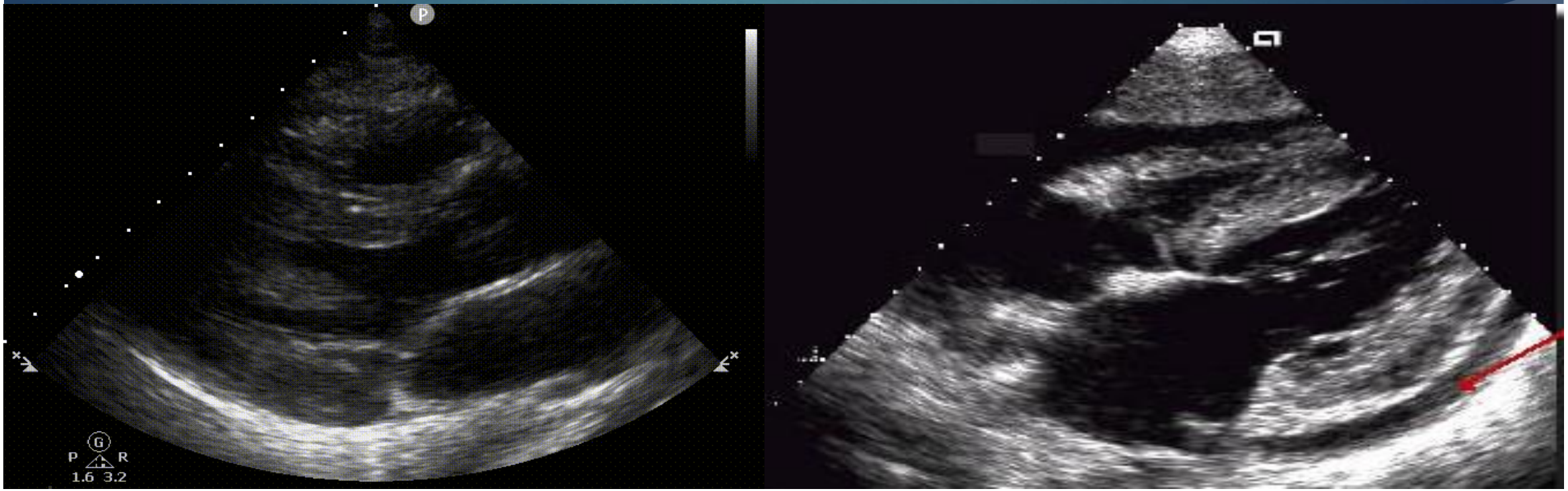




CHEST X-RAY-DURING DISCHARGE



ECHOCARDIOGRAPHY DURING DISCHARGE

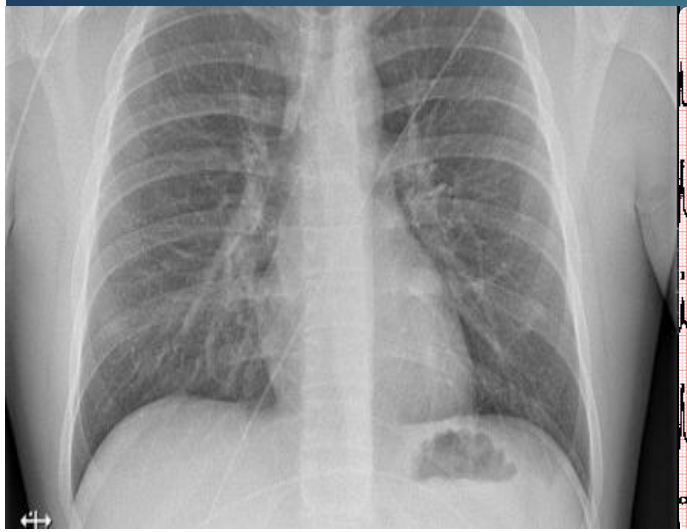


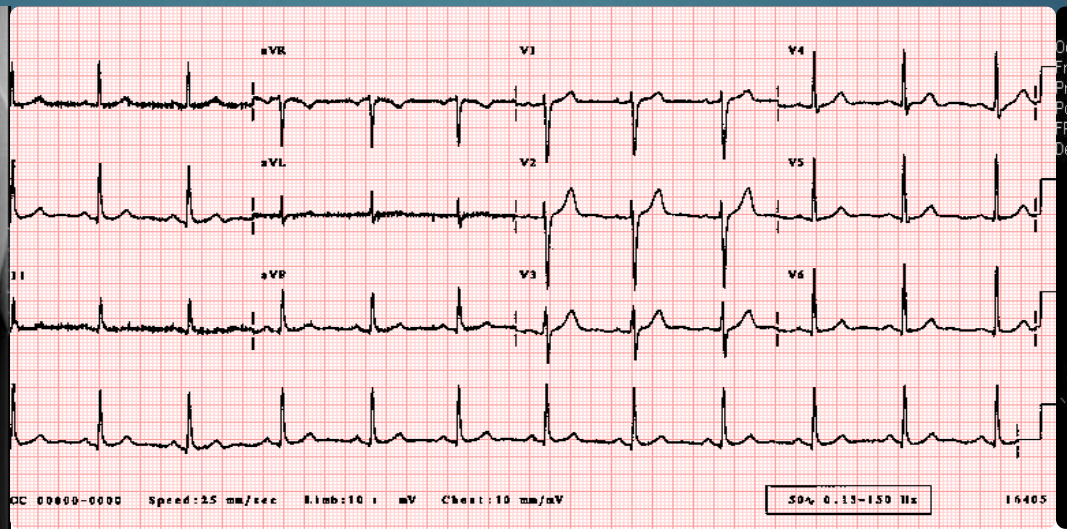
- RA and RV was normal
- Minimal effusion(5 mm) is seen along posterior wall
- No regional Motion wall abnormalities

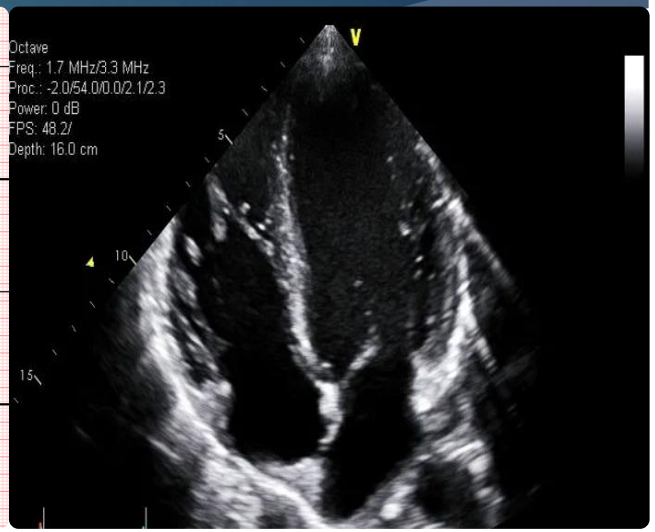
DISCHARGE

- He was discharged on 6th day of readmission with proper advice regarding adverse effects of anti tubercular therapy with a follow-up appointment scheduled in 2 weeks with CBC, ALT, S. Creatinine and S. Uric Acid.

ON FOLLOW UP AT 2 WEEKS







Normal CXR

Normal ECG

Normal ECHO

ON FOLLOW UP AT 2 WEEKS

- Patient remained afebrile with improved general well being and weight gain of 3 kgs.
- There were no anti tubercular therapy induced adverse effects.

TAKE HOME MESSAGES

- Tuberculous of pericardium is frequently underdiagnosed case accounting for only 1-2% of all tuberculosis patients.
- Tuberculosis of pericardium has 4 stages: Dry(acute pericarditis), Effusive(pericardial effusion), adsorptive(constrictive pericarditis) and constrictive(constrictive pericarditis) stages.
- Tuberculosis may present with short duration of febrile illness.
- In a dyspneic patient, Narrow pulse pressure with relatively normal diastolic pressure always points towards obstructive shock.

TAKE HOME MESSAGES

- Beck's Triad: hypotension, raised JVP and muffled heart sounds is acute tamponade triad.
- On ECG , never ignore voltage with height of R wave(very often ignored)
- On chest x-ray, enlarged cardiac shadow with fullness of pulmonary conus, always consider tamponade(specially with raised JVP and hypotension).
- On echocardiography, Diastolic collapse of RA and RV is pathognomonic of cardiac tamponade.

TAKE HOME MESSAGES

- Cardiac tamponade is a medical emergency, immediate pericardiocentesis is life saving.
- In tubercular pericardial effusion steroid is must along with antitubercular therapy.
- Screening for latent tuberculosis should always be done before initiating any biologic drugs.
- Despite treatment, the mortality of tuberculous pericarditis is about 40%.
- After completion of treatment, patient should be regularly monitored for the development of constrictive pericarditis specially if there is persistent unexplained right heart failure.


THANK YOU :)