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Unusual Presentation of Tubercular Pericarditis

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Abstract: ***Tubercular pericarditis is a rare manifestation of tuberculosis, often seen in patients with HIV or co - infections. This case report presents a 36 - year - old male with tubercular pericardial effusion and HBsAg co - infection, highlighting the importance of early diagnosis and treatment to prevent complications.***

Keywords: Tubercular pericarditis, case study, co - infection, pericardial effusion, HBsAg.

1. Introduction

Patients with tuberculosis sometimes may present with atypical, unusual features. Extra - pulmonary tuberculosis occurs in 20% of patients with tuberculosis which rises to over 50% in people with HIV. Tubercular pericarditis seen in 1% to 8% of patients with. Rapid diagnosis and treatment are crucial in reducing the mortality, morbidity and residual complications of tubercular pericarditis. The reported case is of a 36 - year - old male with tubercular pericardial effusion along with co infection of HBsAg. Therefore, clinician needs to keep complex presentation of tuberculosis in mind to manage the case at its earlier stage to avoid residual complications.

2. Case Description

Throat pain and fever - 5 days
C/o Chest pain - 3 days
Shortness of breath for - 3 days

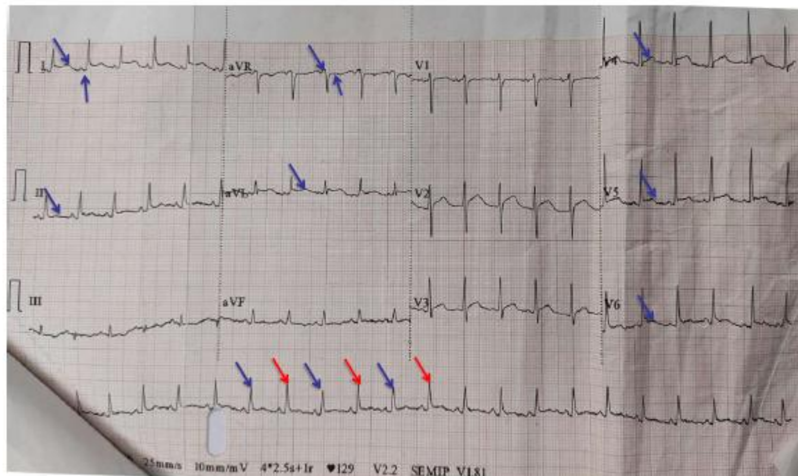
Patient was apparently normal before 5 - days, and then he developed throat pain for which he got treatment from nearby hospital. On next day he developed chest pain compressing type, aggravated by inspiration and changes in posture, radiating to both shoulder associated with breathlessness for 2 days aggravated by exertion relieved by rest. The patient felt comfortable while sitting and leaning forward. Then patient came to our hospital, patient is K/C/O of Type II DM under Siddha medication.

No known history of SHTN/IHD/TB/ Bronchial asthma.
patient conscious, Oriented, afebrile
PR - 80/min SPO2 - 95% RA, BP= 90/60mmHg, RR - 26/min.

JVP - elevated
CBG - 425mg/dl

CVS - S1S2 + muffled. PERICARDIAL RUB +
Rs –NVBS, B/L air entry +
P/A - Soft, epigastric tenderness + CNS - NFND

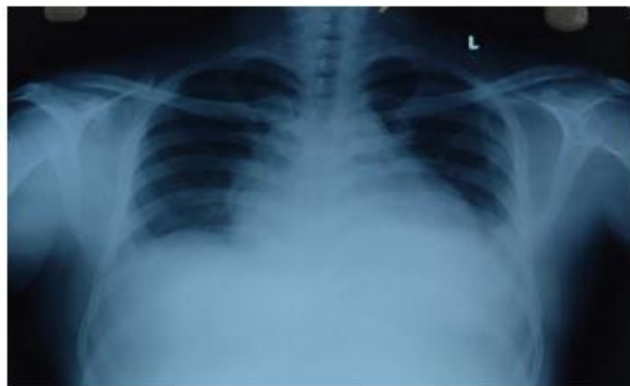
ECG taken



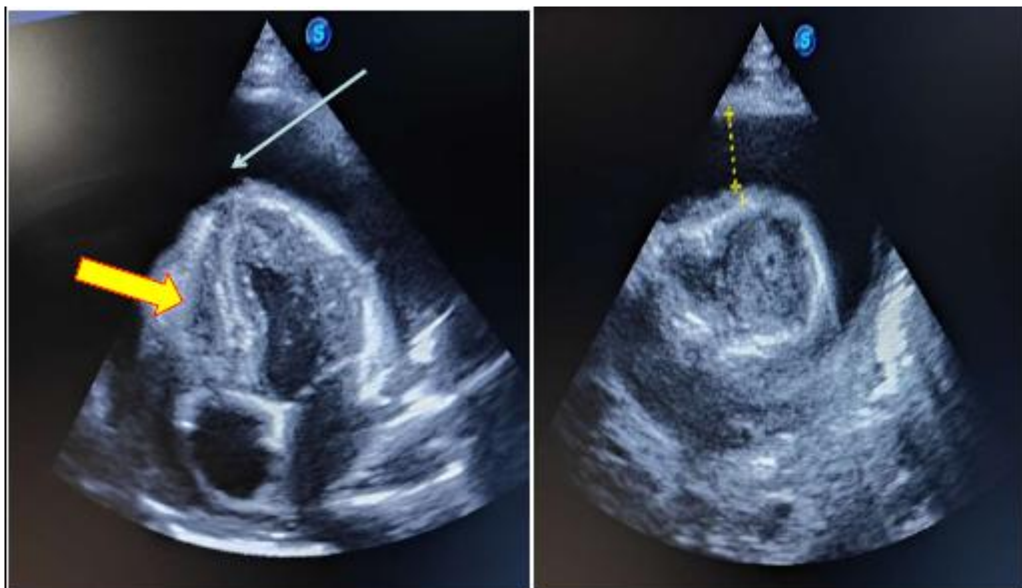
Normal sinus rhythm,ST segment elevation in V1- V6,
Lead I,II,aVL with PR depression.
PR↑/ST↓ - V1,aVR,Electrical alternans

Impression: Acute pericarditis / Pericardial effusion

CXR- taken and it shows CARDIOMEGALY.



Routine investigation sent.
TROPONIN and other cardiac markers - Negative.
Planned for ECHO - it shows



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Echo: EF 48%, Mild LVSD, RV collapse, Mild to moderate pericardial effusion

	6/5/22	19/5/22	23/5/22
RFT			
Glucose mg/dl	544	TOO HIGH	503
Sr. Creatinine mg/dl	1.5	0.8	1.0
Blood Urea mg/dl	65	30	25.3
LFT			
BILIRUBIN (T) mg/dl	3.8	1.8	2.7
I. BILIRUBIN mg/dl	1.8	0.5	1.0
D. BILIRUBIN mg/dl	2.0	1.3	1.7
SGOT U/L	56	29	74
SGPT U/L	50	43	79
ALP U/L	188	260	85
Total Protein g/dl	7.5	7.4	6.7
Albumin g/dl	4.0	4.0	3.9
Globulin g/dl	3.5	3.4	2.8
Urine acetone	NEGATIVE		

Routine Investigation - reports came

CBC	
Total count 10 3/ul	23200↑
RBC 10^6/ul	4.45
HB g/dl	15.1
HCT %	39.3
MCV fl	88.3
MCH pg	33.9
MCHC g/dl	38.4
Platelet 103/ul	1.5

In view of altered LFT, hepatitis panel done. HBs Ag – positive but HBv DNA <100 copies/ml HIV I &II - NEGATIVE

MGE opinion obtained - for HBsAg. As HBV DNA and antibodies levels are low, periodic follow up is adviced. Repeat HBV DNA 3 month later

Under strict aseptic precaution PERICARDIOCENTESIS. done. The fluid was sent for analysis

Color	Dark yellow
Appearance	Turbid
Gram's stain, culture	**Negative**
Ziehl - Neelsen stain and culture for MTB	**Negative**
Protein	**7.0 gm/dl ↑↑↑**
Glucose	**590 mg/dl ↑↑↑**
Total cell count	5520
Polymorphs	30%
Lymphocyte	**50% ↑↑**
Others	20%
RBC's	Present
Pericardial Adenosine deaminase	**135.11U/L↑↑↑ >60 POSITIVE**
Pericardial cytology	Negative for malignant cell
CBNAAT	**POSITIVE**

It shows exudative effusion with elevated ADA and Positive CBNAAT

Diagnosis:
Tubercular Pericardial Effusion with HBsAg co infection

Treatment: started
For High blood sugar insulin infusion initiatedthen switched to subcutaneous route.

Thoracic medicine opinion obtainedModified ATT initiated
- T. Levofloxacin 500 mg 0-0-1
- T- Ethambutol 800mg 1-0-0
- Inj. Streptomycin also added.
- T. Prednisolone
- T. Ranitidine

and then T-Isoniazid and T. Rifampicin added gradually with monitoring RFT /LFT Weekly.

Condition of the patient improved. Patient discharged with ATT

3. Discussion

Tubercular pericarditis (TBP) has a variable clinical presentation and should be considered in the evaluation of all cases of pericarditis. The pericardial effusion is mainly due to hypersensitivity to tubercular protein. Mycobacterium tuberculosis (Mtb) bacilli can enter the pericardium by retrograde lymphatic spread, hematogenous dissemination, or, uncommonly, by direct contiguous spread from adjacent infected structures such as the lungs, pleura, and spine. New registries and trials suggest that the most common clinical presentation of TBP is as effusive pericarditis (79.5%) corresponding to stage 2

Stages of tuberculous pericarditis
- Stage 1 • Dry stage
- Stage 2 • Effusive stage (most common form seen)
- Stage 3 • Adsorptive stage
- Stage 4 • Constrictive stage

The clinical presentation is nonspecific and insidious, with symptoms such as fever, night sweats, and weight loss, usually preceding the cardiopulmonary symptoms, taking cough, dyspnea, and pleuritic pain being the most frequent ones, though severe acute pericardial pain is usually absent. This was the case of our patient, who did not develop a hemodynamic compromise. Cardiac tamponed is a common and life - threatening complication of TB pericarditis that requires immediate medical intervention.

Advent of echocardiography has made it possible to have an accurate. The ECG is abnormal in virtually all cases of tubercular pericardial effusion including the present case. **Investigation includes**
- Culture of pericardial fluid
- Biopsy of the pericardium or epicardium
- Adenosine deaminase (ADA).
- Light's criteria remain the most helpful to distinguish between
- transudates (usually heart failure) and exudates.
- Xpert MTB/RIF and Xpert MTB/RIF Ultra are cartridgebased nucleic acid amplification tests.
- Gamma - interferon (IFN - γ).

The treatment of TBP is aimed at achieving three goals: killing and control of active MTB; relief of the cardiac compression and adverse hemodynamic sequelae

(tamponade and heart failure); and the prevention of complications of maladaptive pericardial remodeling and healing, including constrictive pericarditis.

There is also good circumstantial evidence that in recent prospective studies with high rates of pericardiocentesis the rates of constrictive pericarditis are lower. . European Society of Cardiology pericardial disease guidelines recommend that it may be reasonable to use adjunctive corticosteroids.

4. Conclusions

Tubercular pericarditis remains a significant cause of cardiovascular morbidity and mortality, especially in TB - endemic regions. This case underscores the importance of considering tuberculosis in atypical presentations and emphasizes the need for rapid diagnostic tools.

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