Latent TB - The Great Confounder. A Case Report Of Neutrophilic Pericarditis and Diagnostic Uncertainty.

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Introduction

Mycobacterium Tuberculosis is often referred to as the Great Imitator[1], alongside syphilis and others, due to its capacity to mimic other disease processes.
However here we would like to describe a case whereby latent Tuberculosis infection in a patient with pericarditis contributed to diagnostic uncertainty due to the atypical course of this patient's disease.

Background

A 29 year old man presented with a two day history of chest pain and dyspnoea. His chest pain was sharp, pleuritic, and had a positional component. His inflammatory markers were raised, and his chest x-ray showed an enlarged cardiac silhouette.
His past medical history was significant for childhood poliomyelitis with residual unilateral leg weakness.
He was originally from Romania.
He was not taking any regular medications.

Clinical course

He was admitted and underwent CT Pulmonary Angiogram, which demonstrated a large pericardial effusion, and a right middle lobe granuloma, with no pulmonary embolus. Serial high sensitivity troponins were negative. He was initially apyrexic.
IGRA testing was ordered due to the presence of granuloma, and was positive.
On day 2 of admission, he underwent pericardiocentesis while remaining off antibiotics. The cell count for the pericardial fluid showed WCC 1100/uL with polymorph predominance, in keeping with a bacterial pericarditis[2].
However the patient's presentation was atypical for such as he was apyrexic and clinically stable in the absence of antimicrobials.
The patient did proceed to become pyrexic several hours post pericardiocentesis, with a temperature of 38.8°C. He was commenced on piperacillin-tazobactam as per local guidelines for pyrexia of unknown origin[3].

Outcome

The patient was quickly responsive to piperacillin-tazobactam, with defervescence and decreasing inflammatory markers. Pericardial fluid was negative on auramine stain, and his clinical response to piperacillin-tazobactam did not support a TB pericarditis diagnosis[4]. All blood cultures off antibiotics were negative, pericardial fluid culture and viral PCR were negative. GenXpert PCR for TB was therefore undertaken on the pericardial fluid, which was also negative. Repeat TTE showed no recurrence of the effusion, so he was discharged on colchicine, to complete the duration of antibiotics orally.

Investigations

Laboratory investigations: WCC 13.4, CRP 264 on admission. Renal and Liver function within normal limits.

IGRA : positive

CXR: enlarged cardiac silhouette.

CTPA: large volume pericardial effusion, no pulmonary embolus, calcified granuloma RML.

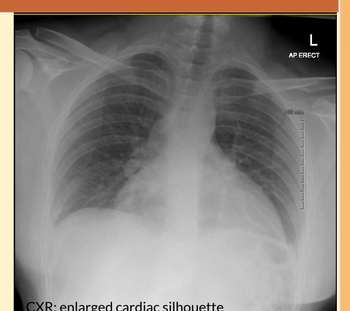
ECG: diffuse ST elevation - lead I, II, III, aVF, V2-V6. Sinus tachycardia.

TTE: moderate, generalised pericardial effusion - 2.7cm LV, 2.5cm at RA with RA collapse.No evidence of tamponade.

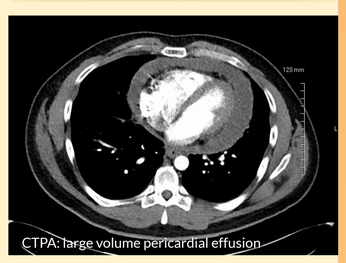
Pericardial fluid: WCC 1100/uL, 89% polymorph predominance. Gram stain negative. Culture negative. Negative Auramine stain. NAAT for TB negative.

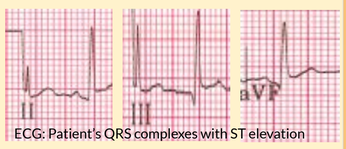
16s of pericardial fluid: negative.

CT Abdomen & Pelvis: negative for other foci of TB. Chronic changes of the muscles and bones of the pelvis in keeping with polio history.

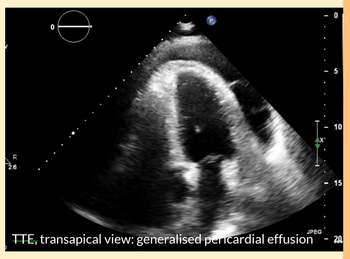


CXR: enlarged cardiac silhouette


CTPA: large volume pericardial effusion



ECG: Patient's QRS complexes with ST elevation


TTE, transapical view: generalised pericardial effusion


CT AP: Muscle wasting and bone loss of right pelvis secondary to prior poliomyelitis

Discussion

This patient was diagnosed with a neutrophilic pericardial effusion, most commonly associated with bacterial pericarditis, however his presentation was not in keeping with this diagnosis.
He originated from a TB endemic area[5], and a diagnosis of prior TB infection was made via CT and IGRA.
The combination of polymorph predominant effusion and prior TB exposure, meant that TB pericarditis became a "rule out" diagnosis, as opposed to "rule in", requiring GenXpert testing of his pericardial fluid, and further imaging.
The patient's clinical course being atypical for his pericardial fluid cell count contributed to the extent of his investigations also.
Ultimately the patient's Latent TB diagnosis was a confounding element to the diagnosis of his active disease.
The aetiology of his disease is still uncertain, but due to further follow up the current working diagnosis is Familial Mediterranean Fever, with genetic testing pending.

References

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