"Unveiling the Intrusion: An Emergent Journey into Tuberculous Pericarditis"

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Introduction

Tuberculous Pericarditis (TBP) accounts for 50-90% of effusive pericarditis in endemic areas, and 4% in non-endemic areas. Here we present a case of TBP and its cardiac complications in an immunocompetent patient.

Clinical Course

A 30-year-old male was admitted for a 2-week history of dyspnea and palpitations. Cardiac imaging revealed a complex pericardial effusion causing constrictive pericarditis with abnormal septal wall motion abnormality. He emergently underwent a pericardial window procedure.

Pertinent history:
- Immigrated from Mexico 1 month prior to admission.
- Immunocompetent

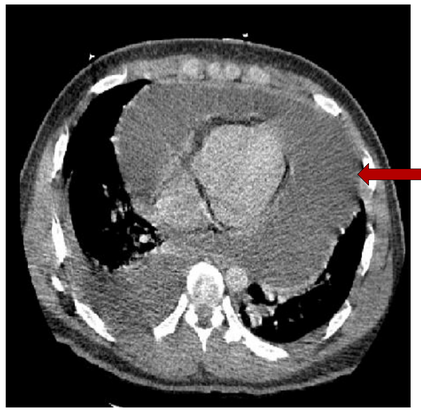
Pertinent Laboratory data:
- Pericardial Fluid
  - MTB PCR +
  - Adenosine Deaminase (Elevated)
  - NEGATIVE: AFB smear and Culture
- Pericardial tissue
  - POSITIVE: AFB smear and culture
  - MTB PCR +

Treatment course:
- Rifampin, Isoniazid, Pyrazinamide, Ethambutol (RIPE) + Vitamin B6
- Prednisone 60 mg daily for 2 weeks with taper over 2 months.

Follow-up:
- Followed in TB clinic for RIPE management for 9 months.
- Followed by Cardiothoracic surgery with minimal pericardial effusion demonstrated on repeated CT chest 1 month after discharge.

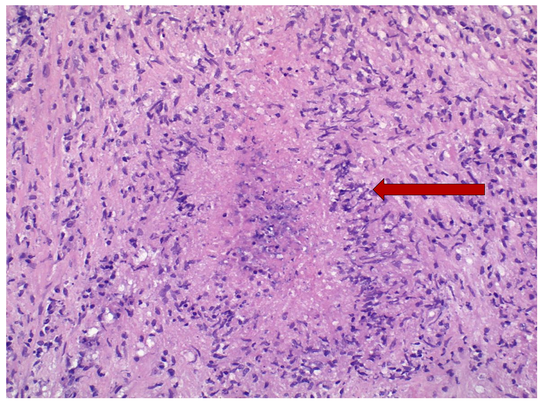
Patient Images

CARDIAC COMPUTED TOMOGRAPHY ANGIOGRAPHY



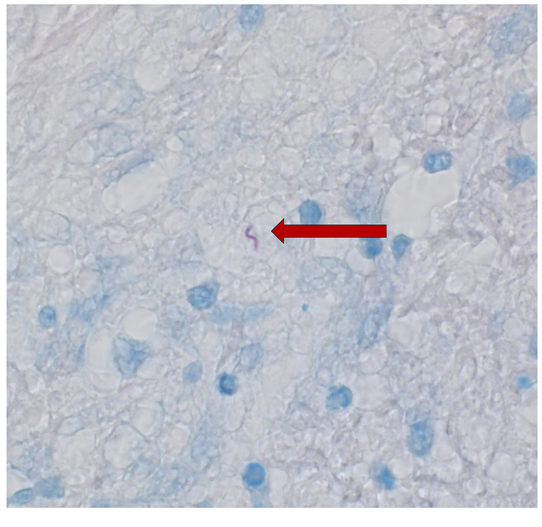
Large Pericardial Effusion

HISTOPATHOLOGY



Caseous Necrosis and Surrounding Granulation.

MICROBIOLOGY



AFB Stain with Tubercle Bacilli.

Discussion

- Despite being primarily a pulmonary disease, Mycobacterium tuberculosis can affect any organ of the body, and often presents with cardiac involvement. After the central nervous system, cardiovascular involvement is one of the most common extrapulmonary manifestations of tuberculosis.
- Early diagnosis is challenging, with an average delay of 5.2 weeks from date of hospital admission. We were able to establish the diagnosis within 7-days of hospitalization due to high clinical suspicion from history of immigration.
- Definitive diagnosis required presence of tubercle bacilli on AFB stain in both pericardial fluid and tissue samples.
- Antituberculosis treatment with RIPE is the mainstay of treatment. We also used steroids as an adjunct. The patient did well in his clinical course and remains stable noted in further follow ups.
- Limited data suggests overall reduction of mortality and development of constrictive pericarditis with the use of steroids. However, further studies are needed to assess the effectiveness in TBP.

References

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