Pleurisy in A Young Female: A Can't Miss Diagnosis

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Introduction

Pleurisy is typically associated with bacterial and viral infections affecting the lung. However, here we present a case of a young female with undiagnosed Systemic Lupus Erythematosus (SLE) whose presenting symptom was pleuritic chest pain.

History of Present Illness

21 year old African American female with no medical history, presented with **acute on chronic pleuritic chest pain**, **night sweats, and intermittent bilateral hand pain.**

One month prior to admission, she presented to outside hospitals with similar complaints. Work up demonstrated non-specific EKG changes. She was treated for costochondritis with NSAIDs and referred to cardiology. Her family history was significant for a maternal cousin with a diagnosis of SLE.

Physical Exam

Vitals: T: 101.1F, HR 110, BP 120/80, O2 95% on 4L

General: young female in moderate respiratory distress
Lung: decreased lung sounds in the Right Lower Lung Field
Heart: tachycardic, no murmurs, rubs, or gallops
MSK: no joint swelling, erythema
Skin: no rashes

Laboratory Results

10.7 / 10.4 / 410	Creatinine 0.47 ESR 40 CRP 12
Blood cultures (-) Respiratory Viral Panel (-)	Streptococcal Urine Ag (-) Legionella Urine Ag (-)
ANA 1:1280 (speckled pattern) **Smith/RNP Ab (+)** Anti-double stranded Ab (-) Rheumatoid Factor 364	ANCA (-) C3 119 C4 32

Thoracentesis: **Exudative effusion**

Pleural biopsy: *fibrovascular adipose tissue with acute and chronic inflammation and granulation tissue formation.*

Imaging

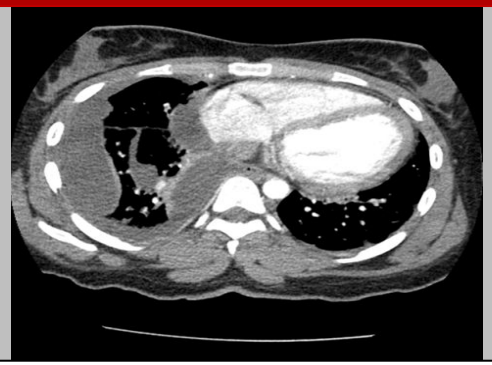

Figure 1: CT Angiogram Chest with right sided loculated pleural effusion and negative for pulmonary embolism.

Clinical Course

She was started on broad spectrum antibiotics for concern for pneumonia. Given loculated pleural effusion, thoracentesis was performed. Despite antibiotics and **negative infectious work up, her fevers persisted.** Thoracic surgery performed **VATS decortication** due to concern for empyema. Pleural biopsy and serologic results were concerning for autoimmune etiology. Rheumatology was consulted and the patient was diagnosed with SLE. She was started on **prednisone with improvement in her symptoms.**

Discussion

- Pleural effusions are commonly visualized on radiography, with the leading causes of pleural effusion in the U.S. being heart failure and pneumonia.[1]
- Nearly 50% of SLE patients have cardiac and lung involvement, yet only 2.5-3% of all patients present with lupus pleuritis.[2]
- Lupus pleural effusions are typically exudative, with only 1-3% of patients having pleural effusion as their presenting symptom.[2-3]
- While rare, lupus pleurisy and pleural effusion have been found to respond well to oral corticosteroids and generally portend a good prognosis.

References:

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2. Gulhane S, Gangane N. Detection of lupus erythematosus cells in pleural effusion: An unusual presentation of systemic lupus erythematosus. *J Cytol*. 2012;29(1):77-79.
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