Rare Occurrence of pleural effusion as primary presentation of Rheumatoid Arthritis

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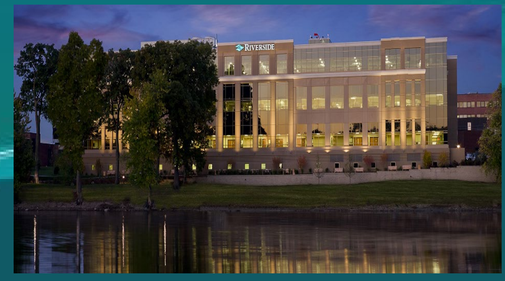

Introduction

Pleural involvement in patients with known rheumatoid arthritis usually present as pleural effusions. It is estimated that the incidence of pleural effusion in rheumatoid arthritis patients ranges between 3% and 5% . The classical rheumatoid pleural effusion consists of exudative fluid characterized by low pH, low glucose levels, and high lactate dehydrogenase activity. Although patients with rheumatoid arthritis can present in some cases with an extra articular disease as the initial disease manifestation, it is rarely observed in patients without active clinical arthritis. Only about 3-5% % of patients develop pleural effusion as first manifestation of rheumatoid arthritis.

Case Presentation

Patient is a 65-year-old white male with history of hypertension, chronic diastolic congestive heart failure, and paroxysmal atrial tachycardia, who developed flu like symptoms with low-grade fever, chills and night sweats. Symptoms initially improved but recurred with chest tightness and left sided chest pain. Chest x-ray showed a moderate left pleural effusion which was new from 2021. Computerized tomogram (CT) scan of the chest showed a moderate left pleural effusion with left basilar atelectasis and some small nodules in the right lung. Patient underwent thoracentesis with about 800cc fluid removed. Workup revealed glucose less than 4 mg/dl, LDH > 700 U/L, WBC's 5561uL (74%), RBC's 8000uL, Protein 5.1g/dL ,and pH 7.33. Rheumatoid factor (RF) came back positive > 900IU/mL, with anti-CCP IgG antibodies detected as well as positive ANA with reflex. Based on exudative pleural effusion with low glucose, and strongly positive RF and CCP, the patient was diagnosed with Seropositive Rheumatoid Arthritis. Patient was started on prednisone 40 mg with a taper over 5 weeks as well as hydroxychloroquine 200 mg twice a day.

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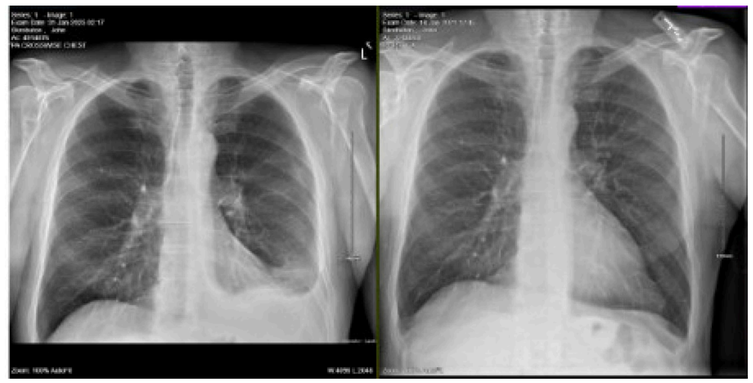
"There is need for early diagnosis, and a rapid switch to the optimal disease-modifying agent, to obtain better disease control"

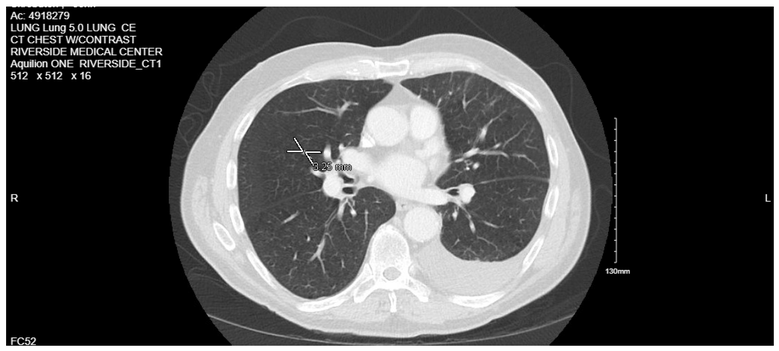
Conclusions

Acute pleural effusion is a rare presentation in RA in the absence of clinical arthritis. This is especially relevant in the absence of secondary causes such as infection, malignancy, and drug toxicity. This report necessitates the need for early diagnosis, and a rapid switch to the optimal disease-modifying agent, to obtain better disease control and limit a variety of associated complications.

Images



a. Chest X-Ray before (left) and after (right) thoracentesis



b. CT without contrast showing moderate left sided pleural effusion, nodule located in right lung.

Resources

1.Thoracic manifestations of rheumatoid arthritis. Esposito AJ, Chu SG, Madan R, Doyle TJ, Dellaripa PF. Clin Chest Med. 2019;40:545–560. doi: 10.1016/j.ccm.2019.05.003. [DOI] [PMC free article] [PubMed] [Google Scholar]
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