Bilateral pleural effusions

An interesting case

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INTRODUCTION

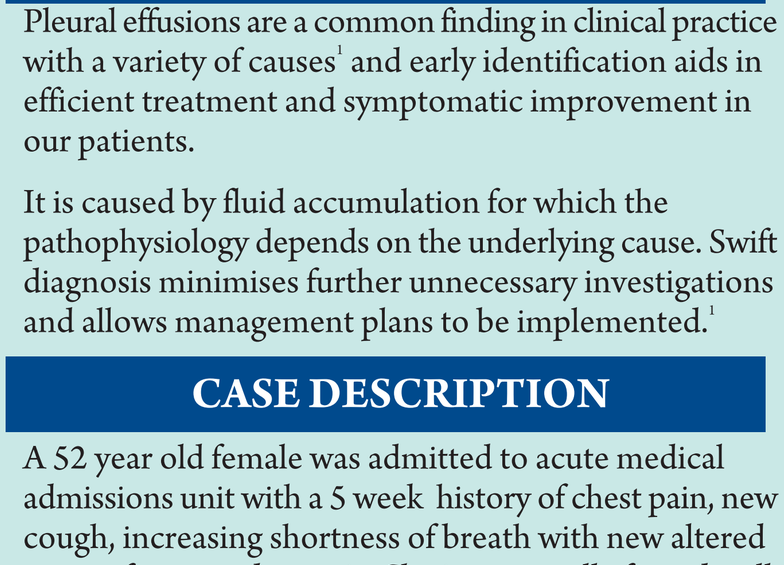
Pleural effusions are a common finding in clinical practice with a variety of causes[1] and early identification aids in efficient treatment and symptomatic improvement in our patients.

It is caused by fluid accumulation for which the pathophysiology depends on the underlying cause. Swift diagnosis minimises further unnecessary investigations and allows management plans to be implemented.[1]

CASE DESCRIPTION

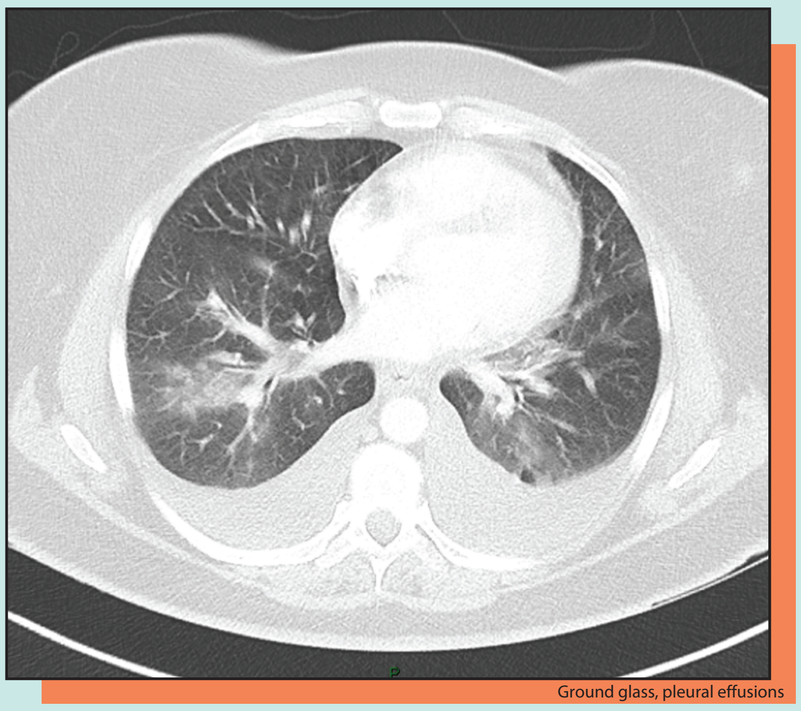
A 52 year old female was admitted to acute medical admissions unit with a 5 week history of chest pain, new cough, increasing shortness of breath with new altered sense of taste and pyrexia. She is a normally fit and well non-smoker with a past medical history of hypertension.

Blood tests revealed elevated d-dimer (2439) white cell count (WCC) of 11.7 and C- reactive protein (CRP) of 45. COVID PCR was negative. CXR was performed and showed evidence of left pleural effusion and prominent right hilar nodes.



Left pleural effusion. Right hilar nodes

Given CXR findings and raised D-dimer, CT pulmonary angiogram was performed and displayed bilateral groundglass opacification, bilateral pleural effusions and mediastinal lymphadenopathy.

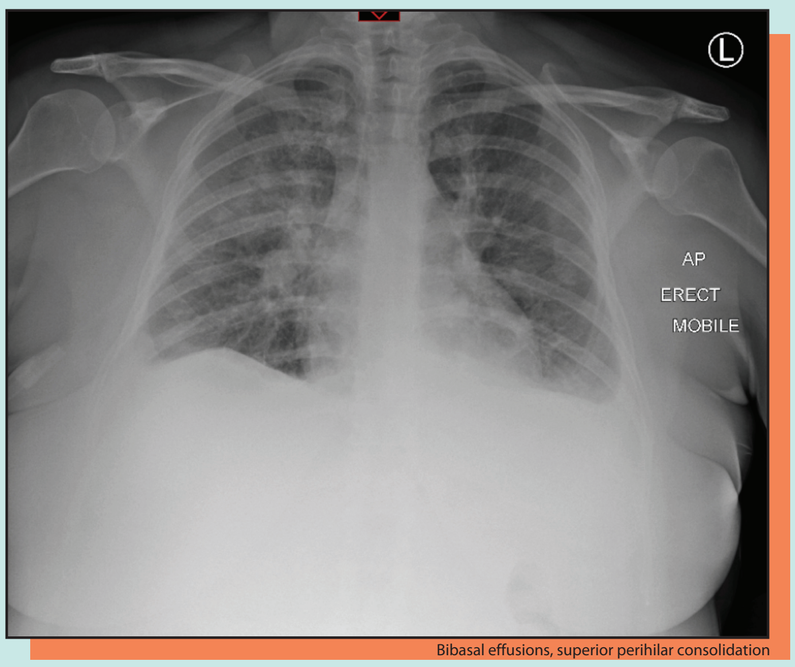


Ground glass, pleural effusions

She was commenced on oral furosemide for cardiac failure and amoxicillin to cover chest infection. Outpatient echocardiogram was arranged and the patient was deemed fit for discharge.

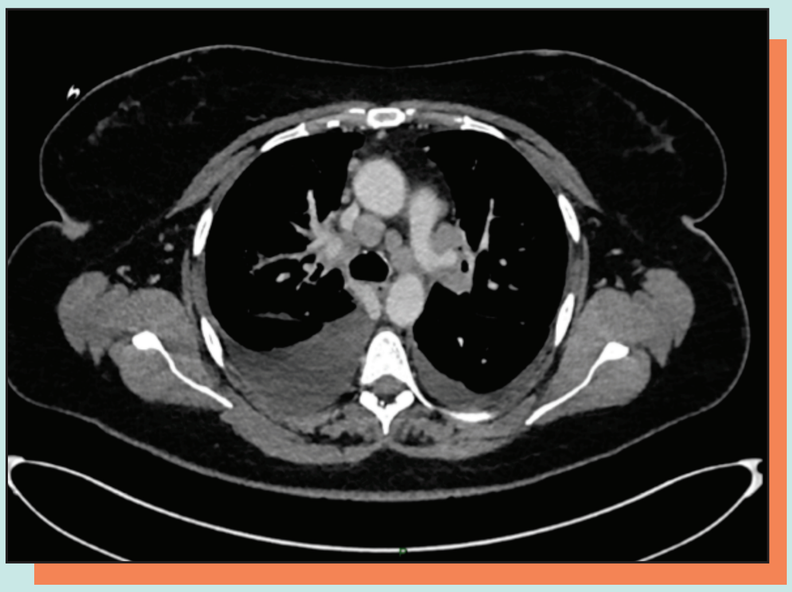
This lady re-presented 2 days after the above discharge with ongoing symptoms of shortness of breath on exertion. CXR was carried out and was unchanged from previous. Furosemide dose was increased and she was deemed fit for discharge.

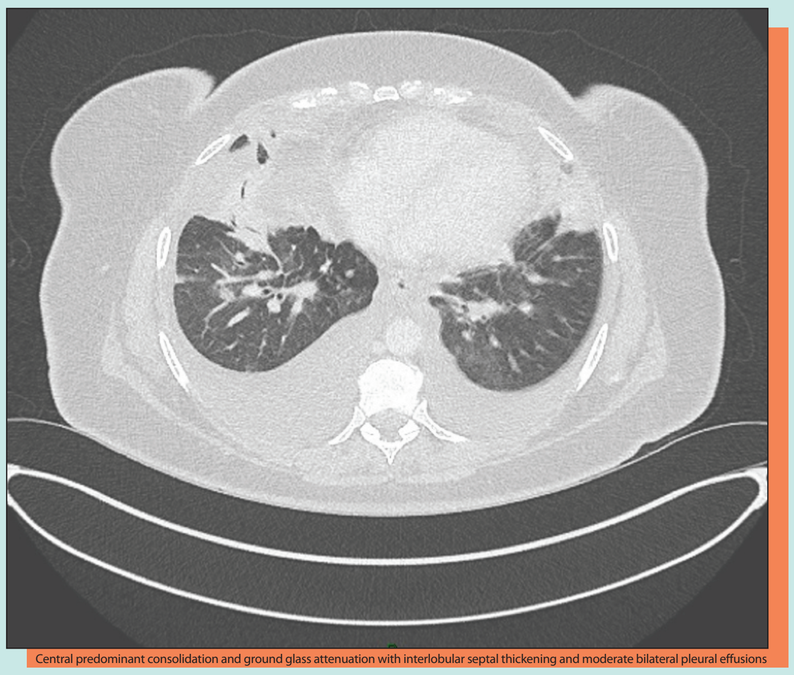
She had a final presentation around one month later with shortness of breath on exertion, persistent cough and chest tightness. Blood tests were carried out revealing elevated CRP to 44. CXR revealed bilateral pleural effusions and right perihilar consolidation therefore antibiotics were commenced for atypical pneumonia.



Bibasal effusions, superior perihilar consolidation

Given worsening in pleural effusions, left pleural aspirate was carried out. The results indicated it was an exudative effusion. CT chest/abdomen/pelvis showed similar features as previous with mediastinal and supraclavicular lymphadenopathy, persistent groundglass opacification and bilateral pleural effusions.



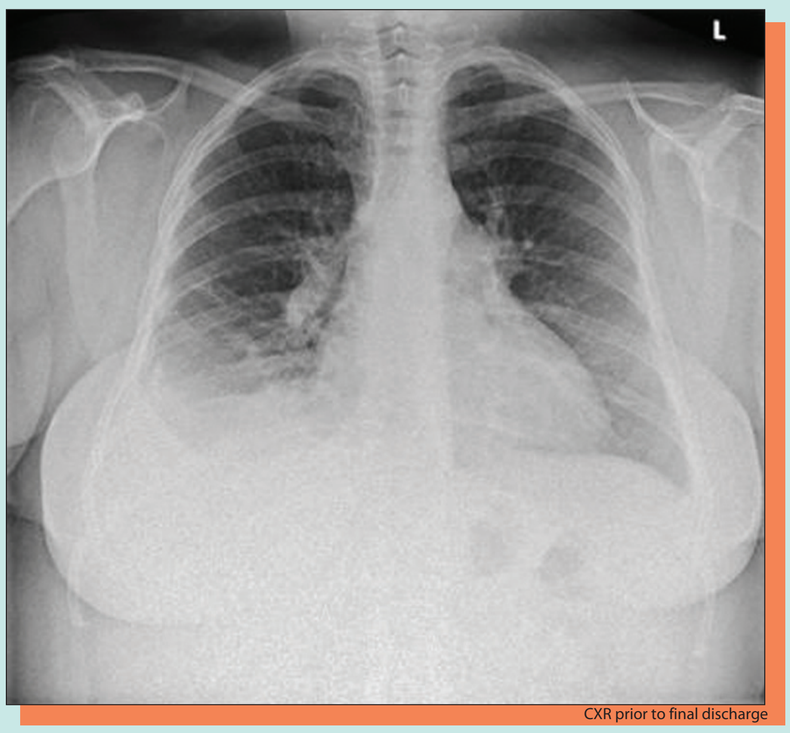


Central predominant consolidation and ground glass attenuation with interlobular septal thickening and moderate bilateral pleural effusions

Echocardiogram was done as inpatient and revealed normal sized ventricle with dys-synchronous left ventricular contraction and mild/moderate LV systolic impairment.

Subsequently, EBUS-TBNA of mediastinal nodes showed granulomatous inflammation in keeping with a diagnosis of sarcoidosis. Given LVSD on echocardiogram, cardiac MRI was arranged and showed evidence of cardiac involvement.

She was then commenced on oral corticosteroids which resulted in symptom improvement and radiographic changes. She is now stable in the community on a maintenance dose of prednisolone.



CXR prior to final discharge

DISCUSSION

Sarcoidosis is a rare condition within the UK with annual incidence of 7 cases per 100,000 and lifetime prevalence is 108,000 people.[2] Although rare, diagnosis is important to allow early treatment that will prevent complications of the disease.

Our case illustrates that cardiac sarcoidosis is a rare but important cause to consider in patients presenting with unexplained new-onset heart failure. Increased severity of heart failure in this patient group is a predictor of sudden death.[3] Furthermore, an American study of over 300,000 inpatients found that nearly one fifth experienced arrhythmias during hospitalisation.[4] This is a complication of sarcoidosis that requires prompt recognition and treatment.

It further highlights how rapid improvement in respiratory symptoms is observed once treatment is commenced. The hope is that early treatment in this case will have prevented long term irreversible impact on the patient, for example, pulmonary fibrosis.[5] It is documented that this complication is a risk factor for mortality and a French study showed that "sarcodosis patients with pulmonary fibrosis have markedly decreased survival compared to the general population" [3].

The above exhibits the potential substantial morbidity of the disease further emphasising the importance of early recognition and treatment. This aims to ensure that cardiac and respiratory function (among others) is maintained.

REFERENCES

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