

Barium sulphate aspiration

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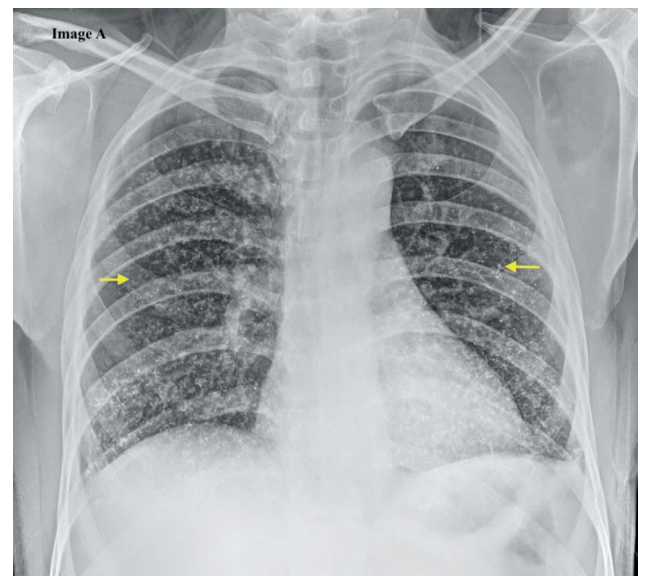
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A 48-year-old male, working in the paramilitary forces, presented to the rheumatology clinic with three weeks history of low-grade fever and flare of inflammatory arthritis in small joints of hands, shoulders and knees. He was diagnosed with systemic lupus erythematosus (SLE) three years ago. History of other systemic illness, tuberculosis and malignancy was absent. His current medications included oral methotrexate 15 mg once a week, oral folic acid 5 mg daily, hydroxychloroquine 200 mg daily and oral prednisolone 5 mg daily. No recent respiratory or other systemic symptoms were present. He reported hospital admission with lower respiratory tract infection and right-sided pleural effusion five months ago, which was resolved with oral antibiotics. The previous year, the patient was investigated for pulmonary tuberculosis and started on antitubercular therapy, which was subsequently stopped as no evidence of *Mycobacterium tuberculosis* bacilli was found. No other medical records were available at the time of the clinic visit.

A posteroanterior chest radiograph (Figure 1) performed during a clinic visit showed diffuse scattered dense micro-nodular opacities in both lungs and minimal right costophrenic angle pleural effusion. High-resolution computed tomography of chest (Figure 2) without contrast, showed diffuse randomly distributed high-density micro-nodular pulmonary nodules (<10 mm) in both lungs. There was no associated interstitial septal thickening or consolidation.

The differential diagnosis based on imaging findings raised possibilities of healed varicella pneumonia, miliary tuberculosis, miliary histoplasmosis, metastatic calcification, pulmonary hemosiderosis, pulmonary alveolar microlithiasis and pneumoconiosis such as silicosis, baritosis, stannosis and talcosis.¹

Figure 1 Diffuse scattered dense micro-nodular opacities (yellow arrows) on posteroanterior chest radiograph.

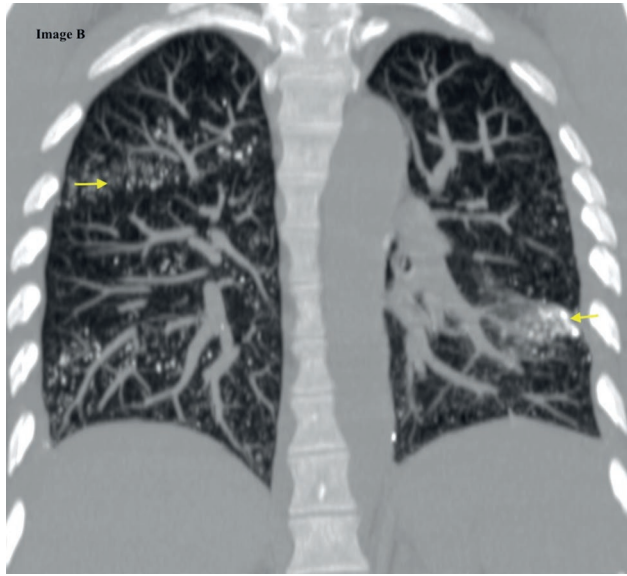


There was no occupational history of industrial work. As imaging findings were not correlating with the current presentation, a further analysis into previous medical records revealed barium contrast aspiration during a swallow examination three years ago, thus confirming barium sulphate aspiration as the cause of the radiological findings. For the current flare of SLE, the patient responded well to the optimisation of immunosuppressive regimen and was discharged as an outpatient clinic follow-up.

Pulmonary baritosis is a rare benign non-fibrotic pneumoconiosis caused by inhalation or aspiration of barium sulphate particles.² Pulmonary baritosis is usually clinically

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Figure 2 High-density micronodules (yellow arrows) on a coronal section of high resolution computed tomography scan of the chest.



asymptomatic and does not cause impairment of lung function. An oral barium swallow test is done for diagnosis of upper gastrointestinal tract anatomical and muscle disorders. Mild aspiration of barium sulphate usually does not cause significant complications; however, high-volume aspiration may lead to respiratory and circulatory distress.^{3,4}

Our case emphasizes the significance of focused history taking and scrutiny of previous medical records in scenarios of clinical and imaging discrepancy. Timely diagnosis of asymptomatic old barium aspiration can prevent further unnecessary expensive investigations and drug therapies. ①

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