

Background

55-year-old male with history of alcohol abuse and withdrawal seizures, tobacco dependence, COPD and T8-T10 spinal fusion presented with alcohol withdrawal and worsening shortness of breath. The initial chest x-ray was obtained which showed bilateral punctate lung parenchymal disease. CT scan of the chest was recommended for further evaluation and demonstrated subtle ground glass airspace opacities in the right middle lobe, pleural thickening, and pulmonary cement emboli throughout the subsegmental arteries of the right lung, as well as mediastinal adenopathy. The patient was admitted and treated for alcohol withdrawal and COPD exacerbation during his stay and was ultimately discharged home for outpatient follow up.

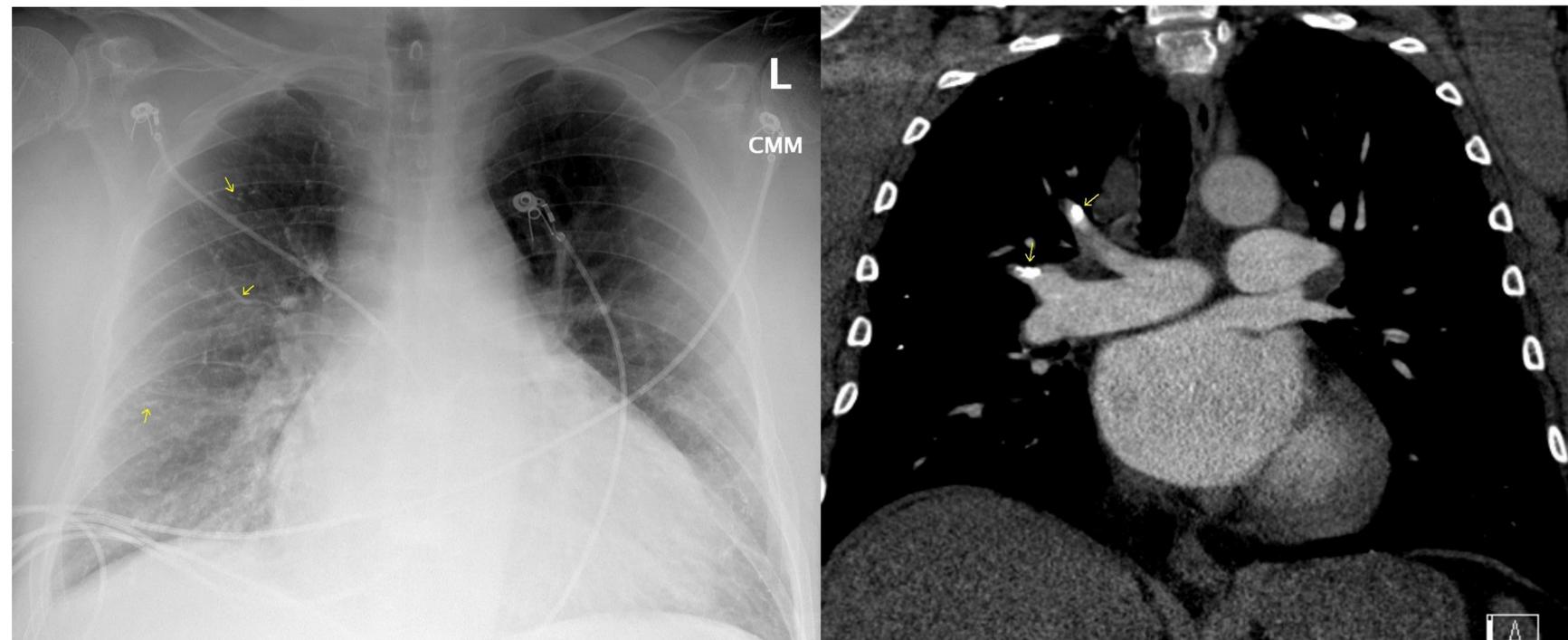


Figure 1. Initial chest X-ray demonstrated punctate pulmonary parenchymal densities.

Figure 2. Follow up CT chest. Coronal slice shows calcific densities within the segmental branches of the right lung pulmonary arteries.

Discussion

Pulmonary cement embolism is a complication of vertebroplasty or kyphoplasty procedures where polymethyl methacrylate (PMMA), which is typically inserted into spinal compression fractured vertebrae, extravasates into the pulmonary venous system. PMMA is believed to leak into the anterior external venous plexus, to the inferior vena cava and then to the pulmonary vasculature. Literature states that this can affect as high as 25% of patients who undergo these procedures¹.

Symptoms usually occur within days to weeks after the procedure². Clinical presentation is extremely variable as patients may be asymptomatic, or have chest pain, cough, dyspnea or present with acute respiratory distress syndrome. Plain radiographs may reveal scattered dense opacities, but a non-contrast CT is a more specific and sensitive test and would show extravasated high attenuating cement. Symptoms usually occur within days to weeks after the procedure. Therefore, treatment is usually based on patient symptomatology and may include observation, conservative care, anticoagulation, or percutaneous removal of the cement.

•In conclusion, it is important to keep the differential of pulmonary cement embolism in patients presenting with acute cardiopulmonary symptoms who had a history of vertebroplasty/kyphoplasty.

References

1. Sinha N, Padegal V, Satyanarayana S, Santosh HK. Pulmonary cement embolization after vertebroplasty, an uncommon presentation of pulmonary embolism: A case report and literature review. *Lung India*. 2015;32(6):602-605. doi:10.4103/0970-2113.168119
2. Leiti, OJ; Shvab, M. PULMONARY CEMENT EMBOLISM, A RARE EXCEPTION TO D-DIMER BASED DIAGNOSTIC PATHWAY FOR PULMONARY EMBOLISM. *Hospital Medicine* 2019, March 24-27, National Harbor, Md. Abstract 805. March 13th 2022.