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Visual Diagnosis in Emergency Medicine

HYDATID PULMONARY EMBOLISM

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CASE REPORT

A 49-year-old woman presented to the Emergency Department with nonmassive hemoptysis. She also complained of a 2-day history of generalized weakness, shortness of breath, pleuritic chest pain, and productive cough. She reported a previous history of liver hydatid disease that was being treated with albendazole. Upon admission, vital signs were as follows: blood pressure 135/85 mm Hg, respiratory rate 24 breaths/min, pulse rate 118 beats/min, and SpO_2 89% in room air. Bloody stained sputum and a low-grade fever were also noted. Chest auscultation was unremarkable. Bedside ultrasound examination revealed a filling defect in the suprahepatic inferior vena cava (IVC), so a computed tomographic pulmonary angiography was ordered with the clinical suspicion of pulmonary embolism. On the pulmonary computed tomographic angiography, there were filling defects in the left upper and left lower pulmonary arteries (Figure 1). The involved vessels were distended and filled

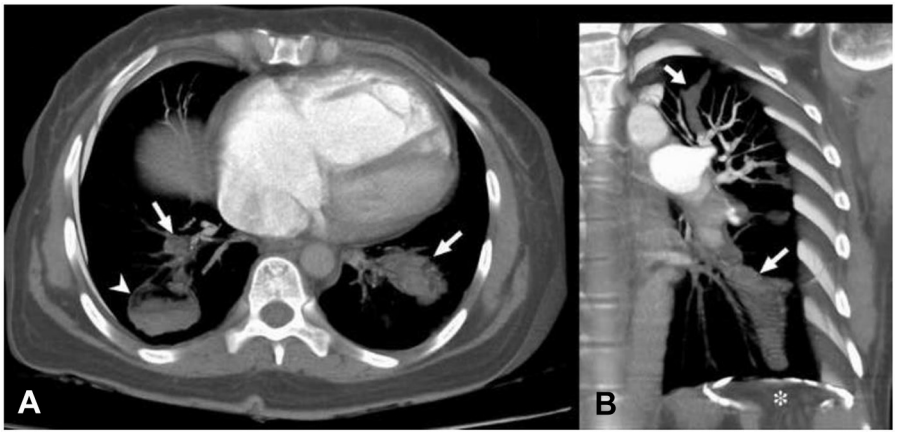

Figure 1. Axial (A) and coronal (B) volume rendering reconstructions of pulmonary computed tomographic angiography in a 49-year-old woman with hemoptysis show cystic filling defects and arterial luminal expansion in pulmonary arteries (arrows in A and B). There is also a cystic lesion containing air-fluid level with undulating surface (water lily sign) in the lower lobe of the right lung (arrowhead in A). Also note a subdiaphragmatic cystic lesion with calcified wall on the left side (asterisk in B). These findings suggest hydatid pulmonary embolism.

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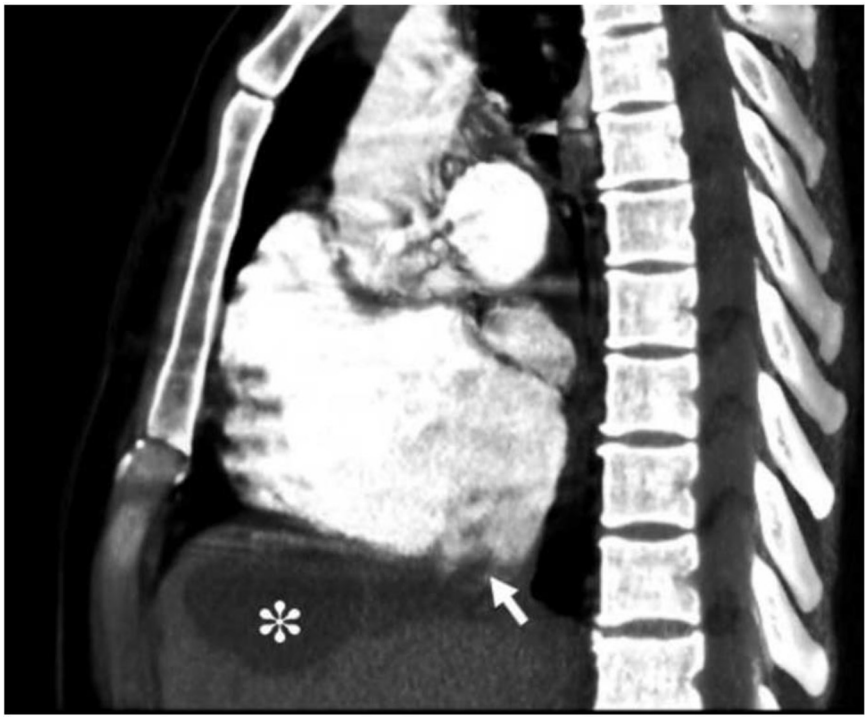

Figure 2. Sagittal maximum intensity projection reconstruction of pulmonary computed tomographic angiography in a 49-year-old woman with hemoptysis reveals a cystic lesion in the liver (asterisk) extending into the inferior vena cava and right atrium (arrow).

with cystic material. There was a hydatid cyst in the liver dome with extension into the IVC. Cystic filling defects were seen in the IVC and right atrium (Figure 2). Multiple other cystic lesions were seen in both lungs, representing pulmonary hydatidosis (Figure 1A). The patient was diagnosed with acute hydatid pulmonary embolism secondary to intravascular rupture of hepatic hydatid disease and was referred to a cardiac surgeon.

DISCUSSION

Hydatid disease is a zoonosis caused by *Echinococcus* species that mostly involves liver and lung (1). Cardiac hydatid disease is a rare condition reported in 0.5–2% of patients. The left ventricle is the most common location, followed by interventricular septum, right ventricle, pericardium, and finally, left and right atria (2). Pulmonary embolism of hydatid disease is an extremely rare complication reported in only a few case reports (3). The clinical findings are nonspecific, and hemoptysis is the most commonly reported symptom (3). In this patient, hydatid pulmonary embolism was diagnosed by observing direct rupture of intrahepatic hydatid cyst into the IVC and presence of cystic filling defects in the IVC, right atrium, and pulmonary arteries. This case emphasizes the importance of familiarity with rare presentations of hydatid disease for physicians working in endemic areas.

REFERENCES

1. Abbasi B, Akhavan R, Seilanian Toosi F, Nekooei S. A man with disabling low back pain: echinococcus of the sacrum. Int J Infect Dis 2016;49:68–70.
2. Zalaquett E, Menias C, Garrido F, et al. Imaging of hydatid disease with a focus on extrahepatic involvement. Radiographics 2017;37:901–23.
3. Yuan Z, Maihesuti M, Wenya L, Cheng Z, Biyemu N, Haitao W. Rare reason for pulmonary embolism: one case of pulmonary hydatid cyst and review of the literature. J Thromb Thrombolysis 2015;40:126–9.