

## Learning objective

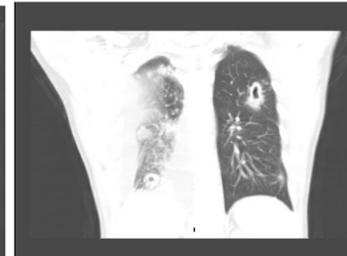
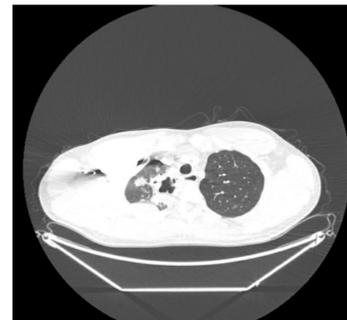
To understand that right atrial myxoma can lead to pulmonary embolism and cause sizeable pulmonary infarcts.

## CASE

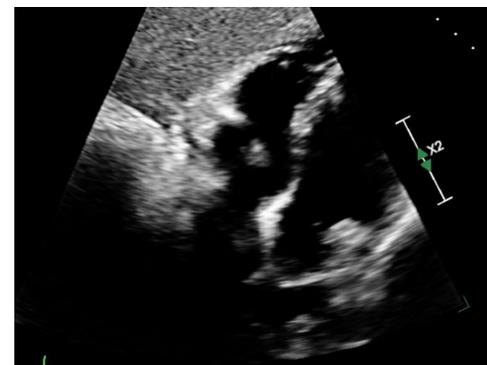
A 23-year-old male with no significant past medical history presented to the hospital with three weeks of shortness of breath, cough and progressively worsening hemoptysis. He had associated night sweats and endorsed a ten-pound weight loss in the same time. Patient was born in the US and did not have any recent travel or incarceration. He did not have any rash, recent sick contacts, or neurological symptoms. He had a 4-pack year smoking history. His family history was notable for Crohn's disease in his mother and brother, but he lacked any suggestive symptoms. Work up done in the emergency department showed an elevated white cell count to 22.5, and an elevated erythrocyte sedimentation rate to 34. A chest radiograph showed multifocal pneumonia with evidence of cavitation in the left upper lobe. CTA of the chest showed no pulmonary artery embolism, however noted bilateral consolidation with cavitary lesions, many peripheral wedge-shaped areas, and a right sided pleural effusion. He received antibiotics and had a chest tube placed with clinical improvement. Histoplasma antigen, fungitell, quantiferon TB test and AFB were negative. Blood cultures showed no growth, and he tested negative for HIV. An extensive rheumatological work up, done due to concerns for vasculitis, was negative. He then had a transthoracic echocardiogram which showed normal LV function, along with a well-circumscribed, highly



Chest Xray showing multifocal pneumonia with evidence of underlying cavitation in the left upper lobe



CTA of the chest showing extensive bilateral consolidation with nodular mass like areas of consolidation. Many of these are cavitary



Echocardiogram showed a well circumscribed mobile echogenic mass measuring 1.6 cm x 1.3 cm in the right atrium. It does not appear to involve the tricuspid valve apparatus.

mobile, echogenic mass measuring about 1.6 x 1.3 cm in size, located in the right atrium. Transesophageal echocardiogram again demonstrated the right atrial mass, which seemed to be attached to the RA/IVC junction. He underwent resection of the mass. Pathology was consistent with a myxoma, with areas of necrosis. The lung cavitation was attributed to pulmonary infarction secondary to embolism from the myxoma.

## Discussion

About 10-20% of all myxomas arise from the right atrium. These myxomas are usually asymptomatic, but rarely can present with constitutional, obstructive or embolic sequelae. There are a few cases reporting multiple pulmonary emboli from right atrial myxoma. Right atrial myxomas with irregular surface are more likely to embolize, causing chronic lung infarcts with cavitation. Surgical removal is the treatment of choice for right atrial myxomas with pulmonary embolisms. However, it is important to note that myxomas can have multifocal origin and hence there is a 1-3% risk of recurrence after surgical removal. This case serves as a reminder that right atrial myxomas should be considered as a cause for pulmonary embolism, which can lead to pulmonary infarcts and cavitary lesions in the lungs.

### References:

1. Ma, Guofeng MD<sup>a</sup>; Wang, Dan MD<sup>b</sup>; He, Yongtao MD<sup>c</sup>; Zhang, Ruifeng MD<sup>a</sup>; Zhou, Yong MD<sup>a</sup>; Ying, Kejing MD<sup>a,2</sup> Pulmonary embolism as the initial manifestation of right atrial myxoma, Medicine: December 2019 - Volume 98 - Issue 51 - p e18386 doi: 10.1097/MD.00000000000018386