

## **Sympathetic Empyema Arising from *Streptococcus anginosus* Splenic Abscess**

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### ***Abstract***

We report a 52 year old male with a history splenic infarction, abdominal pain and shortness of breath. CT scanning revealed a splenic abscess and empyema. Cultures from both sites grew *Streptococcus anginosus*. These resolved with drainage and antibiotics. Physicians should consider Streptococcus species when confronted with a patient with splenic infarction.

### ***Introduction***

Sympathetic Empyema Thoracis or sympathetic empyema is a rare entity. The mechanism by which this occurs is via penetration by a subdiaphragmatic abscess into the pleural space. Most reported cases have occurred in the right hemithorax secondary to the presence of a liver abscess or ascites. Splenic abscess are rare and are often seen in the setting of embolic endocarditis, infections from Salmonella or other bacterial invade the infarcted spleen (1,2). To our knowledge, this is the first reported case of sympathetic empyema likely secondary to a Streptococcus splenic abscess.

### ***Case Report***

A 52 year old male presented with a 2 day history of shortness of breath and 2 a month history of left upper quadrant pain. His medical history included hepatitis C, drug abuse and splenic infarction. On examination his breathing was labored. His chest X-ray was remarkable for a left lower lobe opacification (Figure 1).

He was endotracheally intubated and started on broad spectrum antibiotics. A computed tomography (CT) of the chest and abdomen demonstrated a moderate left side pleural effusion, compressive atelectasis, a small amount of ascites and a splenic abscess (Figure 2).

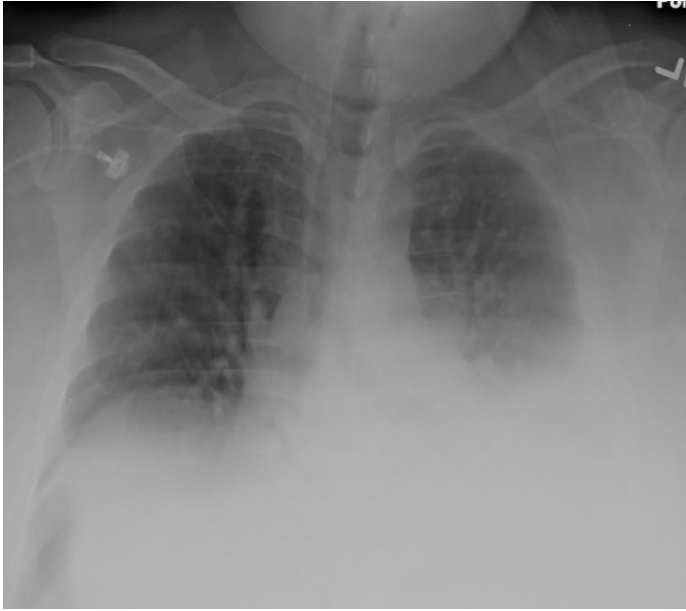


Figure 1. Chest x-ray showing left lower lobe opacification.

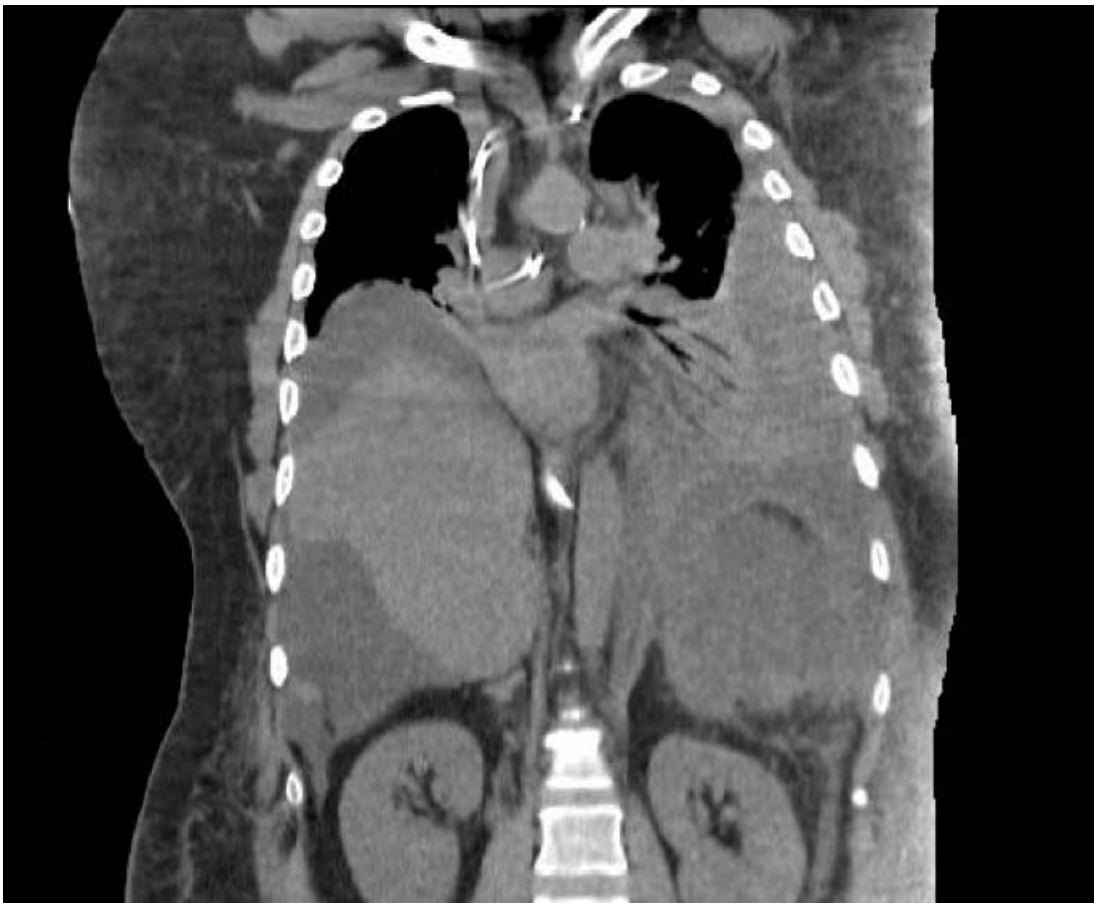


Figure 2. Coronal CT of chest and upper abdomen.

A chest tube was placed into the left hemithorax, and a pigtail catheter was placed into the splenic abscess. Cultures from both sites yielded *Streptococcus anginosus*. The empyema was treated with antibiotics, and chest tube fibrinolytic therapy with tissue plasminogen activator (TPA) and dornase alpha. Blood cultures were sterile and echocardiogram revealed no vegetations. The patient was extubated on hospital day 4. The left pleural empyema responded well to fibrinolytic therapy with chest tube removal on day 10. The splenic abscess required long term drainage with pigtail remaining in place for 3 weeks before the abscess resolved. The patient was discharged home on hospital day 24 on amoxicillin.

### ***Discussion***

Sympathetic empyema is an infection in the pleural space caused by translocation of a bacterial infection from the liver, ascitic fluid or from a splenic abscess. This patient had a known history of splenic infarction predisposing him to bacterial invasion and splenic abscess formation. The absence of cough, sputum production, and lobar consolidation argues against an empyema arising from and underlying pneumonia, although we can not exclude that possibility. Our review of the medical literature demonstrates no known cases of sympathetic empyema from *Streptococcus anginosus*. Physicians should also consider this organism in a patient with a splenic abscess.

### ***References***

1. Buscaglia A. Empyema due to splenic abscess with Salmonella newport. JAMA 1978;240:1990.
2. Tornos M.P, Mayor G, Nadal A, Soler A. Empyema and splenic abscess in infective endocarditis. Int J Cardio 1984;6:746-8.