

# Not So Pure or Cute – A Case of Pleurocutaneous Fistula Post-Thoracentesis

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## Introduction

Pleurocutaneous fistula (PCF) is a rare complication where a fistulous tract develops between the pleural and subcutaneous spaces which can allow fluid leakage between these two compartments. PCF has been described as a sequela of thoracic surgery<sup>1,2,4</sup>, chest tube placement<sup>2,6</sup>, infection<sup>3,5,8</sup>, oleothorax<sup>3,5</sup>, and other concurrent fistulous tracts in the mediastinum.<sup>6,7,8</sup>

## Case Description

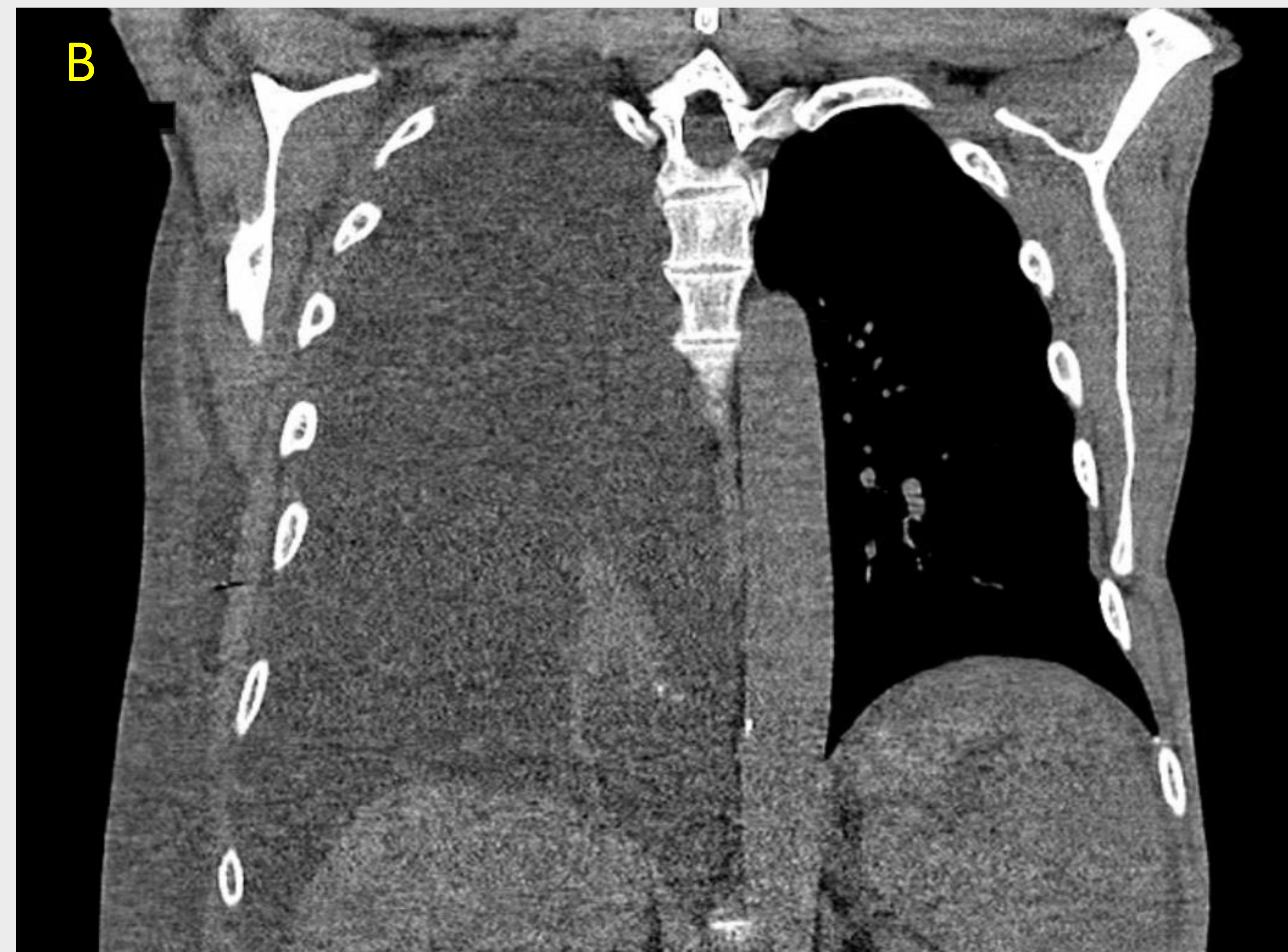
We present a case of PCF as a sequela of thoracentesis in a 60-year-old male with a past medical history of hepatitis C, cirrhosis, and hepatocellular carcinoma who was admitted for progressively worsening dyspnea and abdominal fullness. On exam, he was cachectic with noted diminished breath sounds in the right lung field and an appreciable abdominal fluid wave. A chest computed tomography (CT) confirmed ascites and hepatohydrothorax. Thoracentesis was performed with drainage of 1.5 liters of fluid with relief of his dyspnea. Fluid studies demonstrated a transudate, and notably revealed no malignancy or infection. Within 48 hours, he began to complain of right sided fluid build up and fullness in his chest wall that was appreciable on serial exams. A repeat CT of his chest demonstrated a new fluid collection of similar density to his pleural fluid in his right lateral chest wall subcutaneous space.

## Image Findings



Image A: Axial view chest CT of the patient demonstrating a subcutaneous fluid collection (tip of yellow arrow) of similar density to pleural fluid (tail of yellow arrow) of the pleural effusion.

Image B: Coronal view chest CT showing the large pleural effusion and the significant craniocaudal spread of the fluid collection.



## Discussion

PCF is a rare but known complication of thoracic procedures and has been mostly described in procedures that significantly violate the pleural space such as video-assisted thoracoscopic surgery (VATS) or other thoracic surgery with limited literature on minimally invasive procedures such as thoracentesis. In the patient we present here, there were likely complicating factors that drove fistula formation including positive pleural pressures from quickly reaccumulating hepatohydrothorax and poor nutritional status that delayed wound healing. This case represents a rarely documented complication of a common procedure. The limited literature regarding PCF has demonstrated significant morbidity with this complication<sup>4</sup>, largely due to infection, and this may further support that thoracentesis for hepatohydrothorax should be cautiously approached. PCF is not well described as a complication of thoracentesis and there may be certain patient populations who are at increased risk for PCF that should be identified. It is important that patients are informed of this prior to a procedure, though further studies will need to be done to establish the incidence of this complication.

## References

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