

Pulmonary artery pseudoaneurysm: A rare complication of necrotizing pneumonia

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Introduction: Pulmonary artery pseudoaneurysm(PAP) is the formation of a localized, outpouching sac from the pulmonary artery, not involving all three layers of the vessel wall. The causes of PAP include infection, iatrogenic injury, malignancy, and pulmonary embolism. Clinical presentation of PAP range from incidental findings on imaging to massive hemoptysis. Prompt diagnosis and treatment are crucial due to the potentially fatal consequences of untreated PAP. Pulmonary angiography is the gold standard for diagnosis, although CT can also be used. And coil embolization is an effective method for occluding PAP. We present a rare case of PAP resulting from Streptococcal necrotizing pneumonia and empyema.

Case description: A 77-year-old male patient with pneumoconiosis and rheumatoid arthritis presented to the emergency center with dyspnea, right-sided pleuritic chest pain and cough for a month. Laboratory tests showed elevated WBC and CRP. Chest CT scan revealed necrotizing pneumonia on the right lower lobe with loculated pleural effusion. The patient was hospitalized with a diagnosis of necrotizing pneumonia and complicated pleural effusion. He was treated with intravenous antibiotics (Piperacilline-tazobactam), and ultrasound-guided thoracentesis was performed, extracting around 170 cc of pus. On the 7th day of hospitalization, follow-up CT scan showed an enlarged enhancing nodular lesion within consolidation on the right lower lobe, indicating a pseudoaneurysm. On the 14th of hospitalization, pulmonary angiography with coil embolization was performed to treat the pseudoaneurysm. Streptococcus intermedius was identified in the pleural fluid culture. After 6 weeks of antibiotics treatment, he was fully recovered from complicated necrotizing pneumonia.

Conclusion: This case demonstrates a rare occurrence where a pulmonary artery aneurysm developed as a consequence of necrotizing pneumonia. The patient was successfully treated with antibiotics and coil embolization.

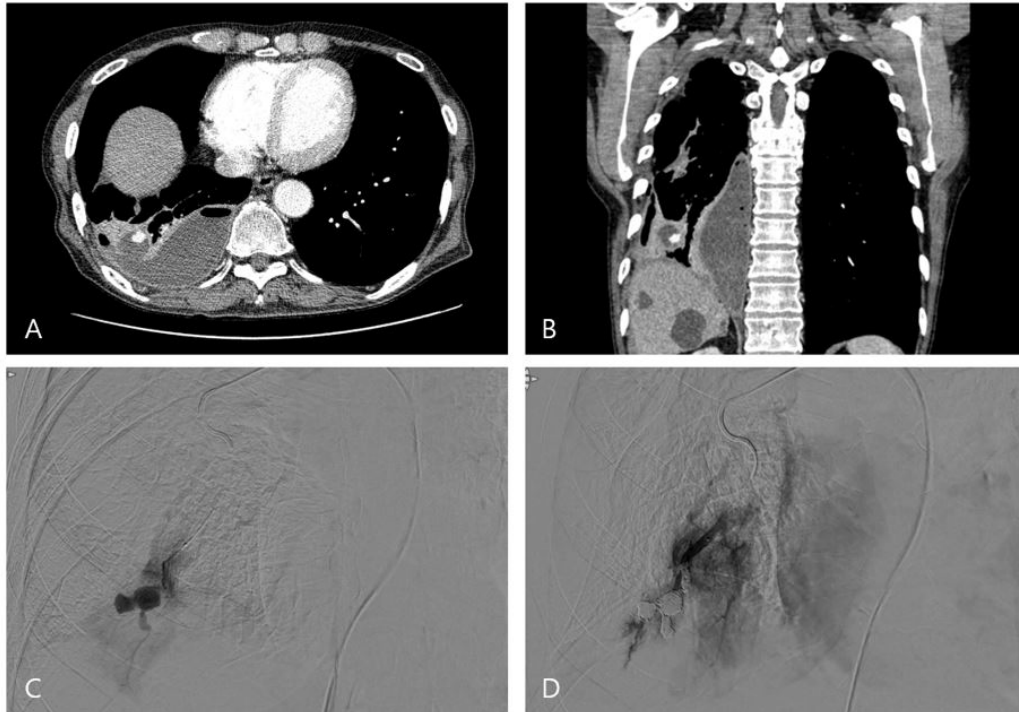


Figure 1 (A, B) There is an aneurysmal change in the pulmonary artery, along with right pleural effusion and pleural thickening. Additionally, there is evidence of necrotizing pneumonia in the right lower lobe and complicated pleural effusion. (C, D) A pseudoaneurysm was identified at the branch of the right lower lobe posterior basal segmental artery, and coil embolization was performed to address it.