

## Septic Pulmonary Emboli as a Complication of Peripheral Venous Cannula Insertion

**Authors :** Ankita Baidya, Vanishri Ganakumar, Ranveer S. Jadon, Piyush Ranjan, Rita Sood

**Abstract :** Septic embolism can have varied presentations and clinical considerations. Infected central venous catheters are commonly associated with septic emboli but peripheral vascular catheters are rarely implicated. We describe a rare case of septic pulmonary emboli related to infected peripheral venous cannulation caused by an unusual etiological agent. A young male presented with complaints of fever, productive cough, sudden onset shortness of breath and cellulitis in both the upper limbs. He was recently hospitalised for dengue fever and administered intravenous fluids through peripheral venous line. The patient was febrile, tachypneic and in respiratory distress, there were multiple pus filled bullae in left hand alongwith swelling and erythema involving right forearm that started at the site of cannulation. Chest examination showed active accessory muscles of respiration, stony dull percussion at the base of right lung and decreased breath sounds at right infrascapular, infraaxillary and mammary area. Other system examination was within normal limits. Chest X-ray revealed bilateral multiple patchy heterogenous peripheral opacities and infiltrates with right-sided pleural effusion. Contrast-enhanced computed tomography (CECT) chest showed feeding vessel sign confirming the diagnosis as septic emboli. Venous Doppler and 2D-echocardiogram were normal. Laboratory findings showed marked leucocytosis (22000/mm<sup>3</sup>). Pus aspirate, blood sample, and sputum sample were sent for microbiological testing. The patient was started empirically on ceftriaxone, vancomycin, and clindamycin. The Pus culture and sputum culture showed *Klebsiella pneumoniae* sensitive to cefoperazone-sulbactam, piperacillin-tazobactam, meropenem and amikacin. The antibiotics were modified accordingly to antimicrobial sensitivity profile to Cefoperazone-sulbactam. Bronchoalveolar lavage (BAL) was done and sent for microbiological investigations. BAL culture showed *Klebsiella pneumoniae* with same antimicrobial resistance profile. On day 6 of starting cefoperazone-sulbactam, he became afebrile. The skin lesions improved significantly. He was administered 2 weeks of cefoperazone-sulbactam and discharged on oral faropenem for 4 weeks. At the time of discharge, TLC was 11200/mm<sup>3</sup> with marked radiological resolution of infection and healed skin lesions. He was kept in regular follow up. Chest X-ray and skin lesions showed complete resolution after 8 weeks. Till date, only couple of case reports of septic emboli through peripheral intravenous line have been reported in English literature. This case highlights that a simple procedure of peripheral intravenous cannulation can lead to catastrophic complication of septic pulmonary emboli and widespread cellulitis if not done with proper care and precautions. Also, the usual pathogens in such clinical settings are gram positive bacteria, but with the history of recent hospitalization, empirical therapy should also cover drug resistant gram negative microorganisms. It also emphasise the importance of appropriate healthcare practices to be taken care during all procedures.

**Keywords :** antibiotics, cannula, *Klebsiella pneumoniae*, septic emboli

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