

From Pneumonia to Cardiac Crisis: Unravelling the Intricacies of a Rare Clinical Sequence in a 53-year-old female

Dabbu Akshaya, Surkanti Sai Nithish Reddy

SEU Georgian National University, Tbilisi , Georgia

Abstract

Pneumonia is a common respiratory infection, but its complications can be severe, including ARDS and cardiac dysfunction such as stress cardiomyopathy. This case highlights the challenges in managing such complex presentations and underscores the importance of prompt diagnosis and intervention. This case report describes a rare sequence of events beginning with community-acquired pneumonia progressing to acute respiratory distress syndrome (ARDS) and culminating in stress cardiomyopathy. The patient's clinical course underscores the intricate interplay between respiratory and cardiac pathologies, exacerbated by an initial exposure to a communal gathering. A previously healthy 53-year-old female attended a funeral gathering and subsequently developed symptoms consistent with pneumonia, upon presentation to the hospital with symptoms of shortness of breath - grade 3, fever for 6 days, productive cough, throat pain, chest pain, and an episode of sweating. Differential diagnosis included screening for both influenza and COVID-19 due to the ongoing pandemic. Investigations revealed paradoxical motion and mild mitral regurgitation on 2D echocardiogram, along with tachycardia and acute myocardial infarction on electrocardiogram. Biofilm array respiratory testing confirmed influenza A, Haemophilus influenzae, and Klebsiella pneumoniae infections. The patient progressed to septic shock with multiple organ dysfunction syndrome (MODS). The treatment strategy focused on upgrading antibiotics, judicious fluid administration, tapering vasopressor support, and closely monitoring bronchoalveolar lavage (BAL) results. Hemodynamic instability required vasopressor support with norepinephrine and vasopressin. Oxygenation significantly improved, but the patient exhibited a systemic inflammatory response syndrome (SIRS) with febrile spikes and persistent tachycardia. Metabolic acidosis was managed while maintaining adequate urine output. The patient's condition was closely monitored, and follow-up assessments revealed persistent global hypokinesia with severe left ventricular dysfunction. The management approach focused on addressing both respiratory and cardiac complications, with an emphasis on tailored antibiotic therapy and hemodynamic optimization. This case underscores the need for a multidisciplinary approach to managing complex clinical presentations, particularly in the context of pneumonia-associated ARDS and stress cardiomyopathy. Early recognition and aggressive intervention are essential to improve outcomes in such critically ill patients.

Keyword

acute respiratory distress syndrome, bronchoalveolar lavage, systemic inflammatory response syndrome.