

A Rare Case of *Serratia Marcescens* Infective Endocarditis Initially Presenting as Pneumonia

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Introduction: *Serratia marcescens* is an aerobic, opportunistic, gram-negative bacillus that is associated with intravenous drug use (IVDU), immunosuppression, and previous antibiotic exposure; it can cause respiratory tract infections, such as pneumonia, resulting in 4.1% of all cases. *Serratia marcescens* endocarditis is rare, contributing to only 14 out of 10000 endocarditis cases, with an 85% estimated mortality rate. Here, we present a case of *Serratia marcescens* pneumonia and infective endocarditis with good prognosis.

Description: A 50-year-old man with history of Hepatitis C, IVDU, alcohol use disorder, and hypertension presented in an altered state after a fall, reporting cough and dyspnea. On exam, vitals were remarkable for temperature 103°F and blood pressure 157/60mmHg. Patient was oriented only to self and appeared diaphoretic. Exam was notable for tachycardia and decreased left basilar lung sounds. Laboratory studies revealed WBC 12.7, platelets 25, CK 2795, creatinine 1.6 (baseline 0.7), troponin 0.21, ESR 56, and CRP 48. Urine drug screen positive for cannabis, opiates, and barbiturates. Head computed tomography (CT) was unremarkable. Chest X-ray displayed a left basilar opacity. Broad-spectrum antibiotics were started for suspected left lower lobe pneumonia, with improvement in clinical status. On day 3 of admission, blood and urine cultures were positive for growth of *Serratia marcescens*. Empiric antibiotics were changed to meropenem. Transesophageal echocardiogram revealed aortic regurgitation from a large vegetation (1.5cmx1.4cm). Patient was not deemed an operative candidate for valvular surgery. Antibiotic was switched to ertapenem for a six-week total course and patient was safely discharged.

Discussion: *Serratia marcescens* bacteremia in a patient with suspected pneumonia should prompt further investigation with a thorough evaluation of source. Given *Serratia marcescens* inherent resistance of multiple antibiotics, and a high mortality rate of endocarditis, high suspicion for alternate source of infection should be considered in patients with pneumonia despite initial improvement in clinical course.