

A Rare Case of Pneumococcal Bacteremia Secondary to Cellulitis

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Background

Reported cases of *Streptococcus pneumoniae* bacteremia secondary to cellulitis are very few.

Case Presentation

65 year-old Black female with a past medical history of morbid obesity, chronic bilateral lower extremity lymphedema, HTN, CHF, asthma, and OSA came to the ED complaining of an infected left lower extremity wound with drainage and surrounding cellulitis for 1 day. She had severe sepsis with fever (100.4°F), leukocytosis (18,600/microliter), and AKI. She did not have respiratory symptoms and CXR was unremarkable. Wound and blood cultures grew penicillin-sensitive *S. pneumoniae*. Doppler US of the lower extremities was negative for DVT and 2D ECHO did not show any vegetations. Repeat blood cultures were negative. AKI resolved. She was initially treated with ceftriaxone 2 gm IV q12h and switched to Augmentin 875 mg BID on discharge to complete a total 14 days course of antibiotics.

Discussion

S. pneumoniae is an uncommonly recognized pathogen in the etiology of skin and soft tissue infections in adults. As noted by Parada et al, amongst 30 cases of pneumococcal skin infections in adults, all of the patients had an underlying chronic illness or were immunocompromised^[1]. The pathogenesis of pneumococcal cellulitis is still unknown. It is hypothesized that organisms may penetrate through the damaged skin either coughed over or exhaled on to the skin with contaminated saliva or sputum^[2]. Our patient had chronic bilateral lower extremity lymphedema with wounds, which were likely the site of penetration and resultant bacteremia. Immobility from obesity and the age of 65 or more had a significant risk to play in disease progression^[3]. Skin biopsy and culture are rarely needed for diagnosis and treatment of cellulitis. In our patient, in the absence of any other source of infection

made it extremely unlikely for the bacteremia to be caused by a source other than the cellulitis. Pneumococcus cellulitis is frequently associated with bloodstream infections and carries a mortality rate between 10 – 23%^[4]. Prevention and control of underlying comorbidities, along with prompt identification and treatment of cellulitis can decrease mortality rates.

References:

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