Case Presentation

- We present a case of a 64-year-old female admitted with lethargy and shortness of breath for three weeks.
- She had completed two weeks of her six-week course of IV daptomycin followed a prolonged hospitalization for Staphylococcus Epidermidis bacteremia due to vertebral osteomyelitis/diskitis.
- Moderate leukocytosis (14.1) and bilateral infiltrates on admission chest X-ray. Infectious workup was negative.
- Her condition deteriorated rapidly despite empiric antibiotic therapy with vancomycin, cefepime and levofloxaxin. Daptomycin was stopped on admission.
- Chest CT indicated scattered bilateral infiltrates reminiscent of ARDS.
- BiPAP support was initiated but succumbed to intubation and mechanical ventilation.
- With persistent hypoxia, advanced ventilatory support using airway pressure release ventilation (APRV) was employed.

Diagnosis

- Bronchoscopy and bronchoalveolar lavage revealed a WBC count of 726 with 21% eosinophils, 37% neutrophils, and protein count <1.0.
- A presumptive diagnosis of daptomycin-induced eosinophilic pneumonia was made. High-dose IV methylprednisolone led to a dramatic clearing of infiltrates within 48 hours.
- She was successfully extubated to nasal cannula, and steroid dosing was tapered off, while the remaining vancomycin course was completed.

Discussion

- Daptomycin, a bactericidal cyclic lipopeptide antibiotic, is used against drug-resistant gram-positive infections. Eosinophilic pneumonia, potentially affecting up to 1.7% of daptomycin-treated patients, is a rare but life-threatening respiratory syndrome.
- Despite the fulfillment of four of the six FDA criteria for eosinophilic pneumonia, the eosinophil count of 21% in bronchoalveolar lavage is just below the 25% threshold.
- A review of 35 documented cases identified corticosteroid use as common, following a typical regimen of IV methylprednisolone with conversion to oral prednisone for tapering.
- Daptomycin-induced eosinophilic pneumonia remains an enigmatic and potentially overlooked phenomenon, necessitating ongoing research and heightened clinical awareness.

References