

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 levofloxacin. 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.

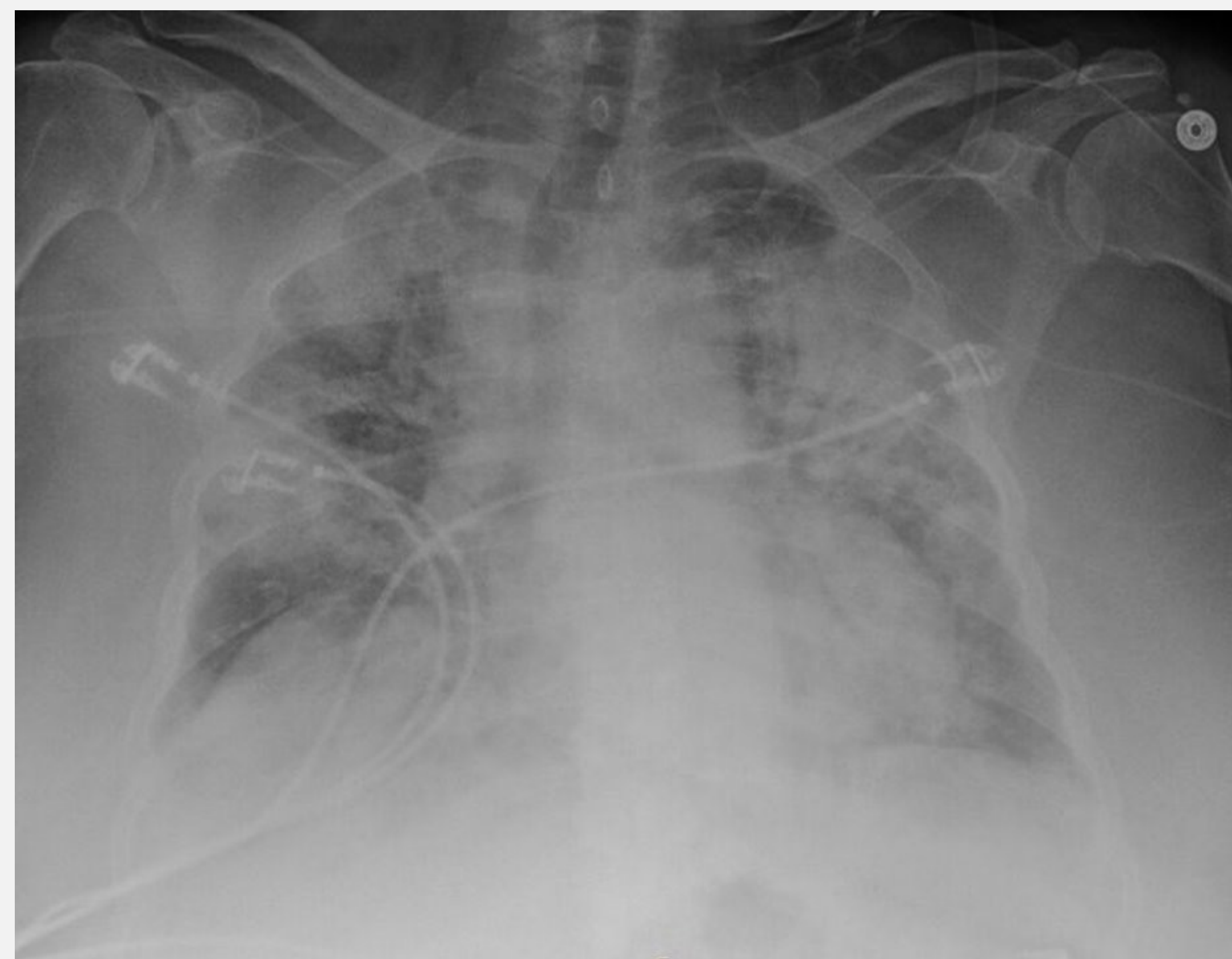


Fig 1&2: Diffuse bilateral infiltrates suggestive of ARDS

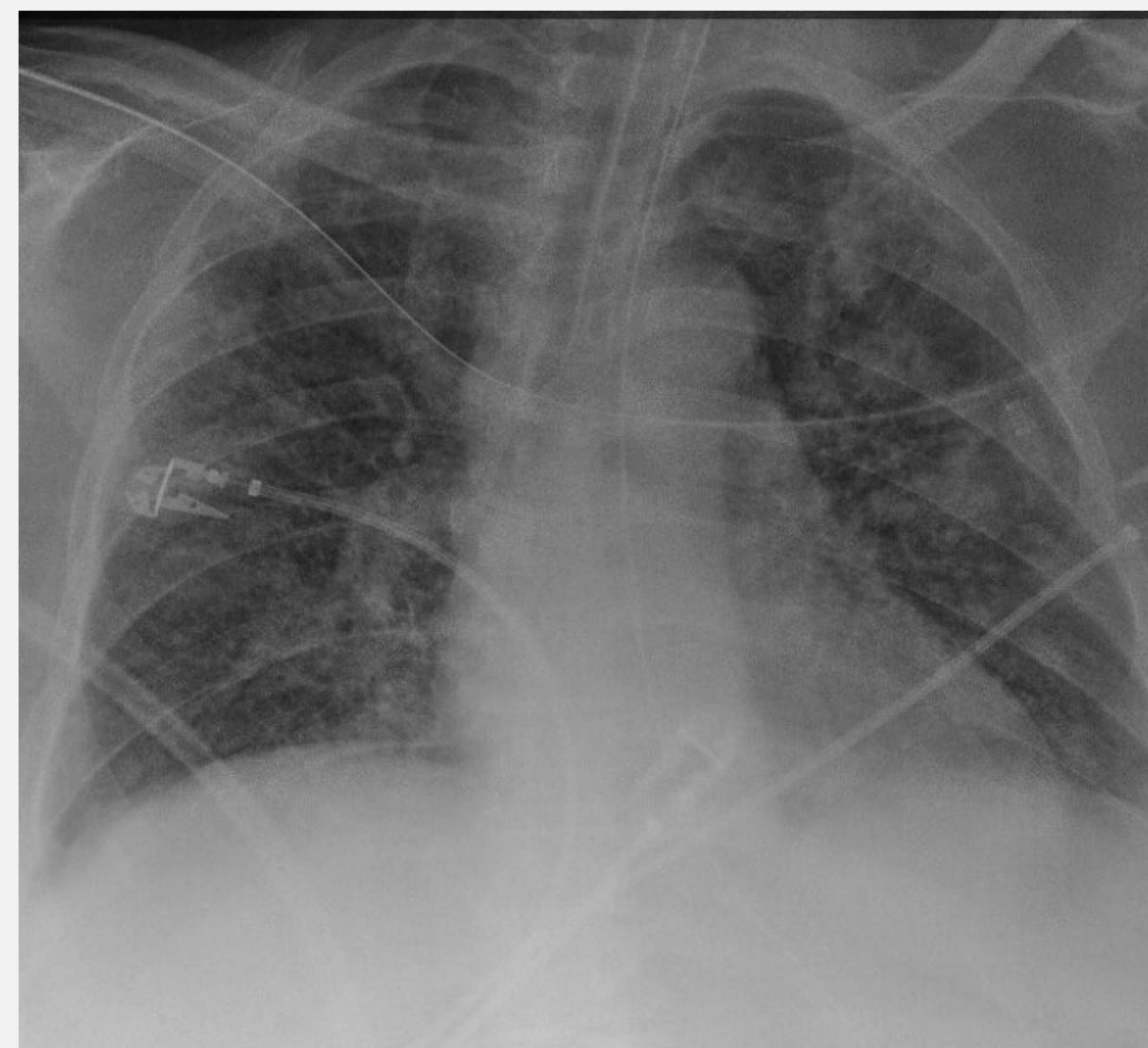


Fig 3: Clearing of infiltrates 48 hrs after steroid initiation

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

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- ❑ Uppal, P., LaPlante, K.L., Gaitanis, M.M. et al. Daptomycin-induced eosinophilic pneumonia - a systematic review. Antimicrob Resist Infect Control 5, 55 (2016).
- ❑ Kumar S, Acosta-Sanchez I, Rajagopalan N. Daptomycin-induced Acute Eosinophilic Pneumonia. Cureus. 2018 Jun 30;10(6):e2899. doi: 10.7759/cureus.2899. PMID: 30397557; PMCID: PMC6207288.