Daptomycin-induced eosinophilic pneumonia

A 67-year-old man presented a haematogenous methicillin-susceptible *Staphylococcus aureus* hip prosthesis infection with a severe local condition requiring implant removal. Lip swelling after an oxacillin infusion (day 2) and vancomycin/gentamicin-induced acute renal failure (day 3; glomerular filtration rate 30 ml/min) eventually led to a switch to daptomycin (6 mg/kg/day) and ciprofloxacin. Following this there was an improvement in renal function and blood cultures became sterile. Seventeen days later, the patient presented a dry cough with diffuse crackles on lung auscultation; he was...

Figure 1. Initial chest X-ray (panel A) and CT scans (panels B and C) showing diffuse alveolar (asterisks) and interstitial (arrows) opacities. A follow-up X-ray showed normalization at 3 weeks after daptomycin cessation (panel D).

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hypoxemic (SpO₂, 87%). A chest X-ray and computed tomography (CT) scan revealed diffuse alveolar and interstitial opacities (Figure 1). His blood eosinophil count increased to 2.6 × 10⁹/l. Bronchoalveolar lavage (BAL) fluid analysis showed 10% eosinophils, with 59% monocytes, 18% neutrophils, and 13% lymphocytes. The plasma daptomycin trough concentration did not indicate an overdose (23.1 mg/l). The patient improved over the course of 4 days following the withdrawal of antimicrobials and with the addition of intravenous methylprednisolone (1 mg/kg/day), which was reduced progressively over 3 weeks. At this time the chest X-ray findings normalized. Cefazolin and rifampicin were started, allowing prosthetic reimplantation 6 weeks later. After 3 months, the treatment was finally stopped.

Daptomycin-induced acute eosinophilic pneumonia is a rare but potentially severe adverse event usually occurring after 2–3 weeks.¹ ² Bilateral pulmonary infiltrates and eosinophils of any value in BAL fluid are of diagnostic value.³ A prompt improvement after daptomycin withdrawal is generally observed, with corticosteroid therapy sometimes required.⁴

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References