

Acute Interstitial Nephritis Following Repeated Daptomycin Treatment for Recurrent Joint Infection: A Case of Delayed Identification of Infective Endocarditis

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Introduction: Acute interstitial nephritis (AIN) is characterized by inflammation of the renal interstitium, often triggered by drug exposure. While vancomycin is commonly associated with AIN due to its known nephrotoxicity, other agents like daptomycin can also induce this condition, potentially leading to severe renal impairment.

Case Presentation: A 68-year-old female with stage IIIA chronic kidney disease and hypertrophic obstructive cardiomyopathy, who had a dual-chamber implantable cardioverter-defibrillator (ICD) placed in March 2024, presented to the emergency department following her fourth joint infection drainage procedure in six months. Each infection, caused by *Pseudomonas aeruginosa*, was treated with repeated courses of daptomycin. During hospitalization, her renal function deteriorated, indicated by a significant increase in serum creatinine and BUN levels, leading to the need for hemodialysis, which continued after discharge. The ICD was identified as the source of recurrent infections and was promptly removed, but the patient remains on outpatient dialysis.

Discussion: Although daptomycin is generally considered less nephrotoxic than vancomycin, it can still cause acute interstitial nephritis (AIN), particularly with repeated or prolonged use, which increases the risk of acute kidney injury (AKI). This case highlights the importance of vigilant renal function monitoring

in patients with chronic kidney disease who are undergoing multiple treatments with nephrotoxic agents to prevent severe outcomes, such as long-term dialysis. Clinicians must carefully weigh the benefits of daptomycin against its risks and remain alert for signs of AIN in patients presenting with unexplained renal impairment.

Conclusion: Clinicians should maintain a high level of awareness regarding the potential side effects of medications, particularly when repeated courses are prescribed. Proactive monitoring of renal function and a thorough understanding of drug side effects are essential in preventing serious complications.

Keywords: Daptomycin, Acute Interstitial Nephritis, Acute Kidney Injury, Pseudomonas, Infective Endocarditis, Joint Infection