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LETTER TO THE EDITOR

Successful management of tunneled hemodialysis catheter-related bacteremia by *Leclercia adecarboxylata* without catheter removal: report of two cases

Leclercia adecarboxylata is a motile, aerobic, Gram-negative bacillus, previously known as enteric group 41 or *Escherichia adecarboxylata*.[1] *L. adecarboxylata* strains are rarely isolated from clinical specimens of hospitalized patients and its actual relevance is not well established. Few cases of bacteremia in subjects with underlying medical conditions have been reported.[1–4] Catheter-related infection due to *L. adecarboxylata* represents an unusual complication of long-term, tunneled central venous catheters placed for total parenteral nutrition[1] or chemotherapy.[5] There are no previous reports of hemodialysis catheter-related bacteremia caused by *L. adecarboxylata* and successfully managed with catheter salvage. We report below the successful management of two such cases.

The first case is that of an 81-year-old male with end-stage renal disease (ESRD) secondary to diabetes mellitus, who was diagnosed with renal cell adenocarcinoma and underwent radical nephrectomy in 1999. Since 2005 the patient has undergone hemodialysis (HD) 3 times weekly through a tunneled central catheter in the right subclavian vein. In June 2006 he was admitted to the hospital because of fever starting a few hours after the HD session. On physical examination, he had a temperature of 38 °C and his blood pressure was 170/90 mmHg. There was no evidence of inflammation at the insertion site. His white blood cell (WBC) count was 10.5×10^9/l (91% neutrophils). He received empirical treatment with IV vancomycin and gentamicin. Blood cultures obtained from the central catheter and by peripheral venipuncture yielded pure growth of *L. adecarboxylata* in four sets. Identification and in vitro susceptibility testing were performed using the WIDER System (Soria Melguizo, S.A., Madrid, Spain) and were confirmed by API 20E (bioMérieux, Marcy ĺEtoile, France). The organism was susceptible to all antimicrobials tested, with the exception of fosfomycin. The catheter was locked daily with ciprofloxacin at a concentration of 2 mg/ml added to sodium heparin (20 IU/ml), and a 15-day course of IV ceftriaxone (2 g every 24 h) was completed. New blood cultures were sterile. The patient was discharged, and he remains catheter infection-free after a 2-year follow-up. HD was subsequently continued through the pre-existing catheter.

The second case is that of a 72-year-old male who underwent a renal transplant in August 2005 for ESRD secondary to hypertension. HD was reinitiated in September 2006 because of allograft failure. He had also received an orthotopic heart transplant in 1991 and was on immunosuppressive therapy with prednisone, mycophenolate mofetil, and rapamycin. A tunneled left subclavian vein catheter was placed in April 2008. Four months later the patient presented with a temperature of 38.6 °C and sweating. He remained hemodynamically stable with no abnormalities on physical examination. There were no signs of inflammation at the insertion site. His WBC count was slightly elevated (11.3×10^9/l with 89% neutrophils). Empirical antibiotherapy was initiated with IV meropenem, gentamicin and vancomycin. Three of six sets of blood cultures obtained from the central line and by peripheral venipuncture were positive for a Gram-negative bacillus, subsequently identified as *L. adecarboxylata*. *Pantoea agglomerans* was simultaneously isolated in one of the sets. Identification and susceptibility testing were performed by the WIDER System and confirmed by API 20E. Both organisms were susceptible to all antimicrobials tested. Antibiotic lock therapy using gentamicin (at a concentration of 2 mg/ml) and sodium heparin (20 IU/ml) was performed once daily. Following a 15-day course of IV meropenem (500 mg every 24 h), the patient was discharged. Subsequent blood cultures were negative, and he showed complete recovery after a 2-month follow-up period. HD was continued through the pre-existing catheter.

L. adecarboxylata is an uncommon pathogen, most often isolated from the polymicrobial post-traumatic flora of wound infections in previously healthy patients.[1,6,7] Some authors have suggested that infections due to *L. adecarboxylata* alone, and particularly those determined by blood culture, are probably limited to subjects with some degree of immunosuppression,[2,3,6] such as those with ESRD requiring renal replacement therapy. The presence of *L. adecarboxylata* in the peritoneal fluid of patients undergoing peritoneal dialysis is quite exceptional.[8,9] However, tunneled hemodialysis catheter-related bacteremia due to this organism has not been previously reported. No controlled studies have addressed whether tunneled central catheters must be removed for the treatment of bloodstream infections caused by Gram-negative bacilli. An attempt at catheter salvage may be justified under certain circumstances, and successful evolution of central catheter-related, Gram-negative bacteremia has been demonstrated after this therapeutic

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approach, especially in pediatric patients.[10] The experience presented herein, albeit limited, suggests that tunneled catheter-related bacteremia due to *L. adecarboxylata* in patients undergoing HD can be successfully managed without the necessity of catheter removal.

Conflict of interest: No conflict of interest to declare.

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