(MLST) performed as described previously showed that K. pneumoniae ALI belonged to ST743, which is a newly identified sequence type. PCR mapping performed as described previously identified the blaOXA-48 gene that was located on the composite transposon Tn1999. Isolate ALI also possessed an intrinsic blaSHV-28 gene encoding a narrow-spectrum β-lactamase of the SHV-1 type. Plasmid location of the blaOXA-48 gene was confirmed by mating-out assays followed by plasmid analysis as described.

PCR assays using a set of primers designed from the reference blaOXA-48-positive plasmid confirmed that blaOXA-48 was located on the IncL/M-type ~62 kb epidemic plasmid. No other antibiotic resistance marker was co-transferred, as observed previously.

This study reports on the first OXA-48-producing K. pneumoniae from the Arabian peninsula. That finding is not so surprising considering that recent studies have indicated that North African countries, which represent an important source of the immigrant population of Kuwait, are endemic for OXA-48 producers. Such a finding further highlights the current widespread nature of OXA-48 producers, and further legitimizes the current policies implemented in France to screen patients for multidrug-resistant isolates who have been hospitalized abroad.

Acknowledgements
We thank platform Genotyping of Pathogens and Public Health (Institut Pasteur, Paris, France) for coding MLST alleles and profiles and making them available at www.pasteur.fr/mlst.

Funding
This work was supported by a grant from the Ministère de la Recherche, Université Paris XI, Paris and by the INSERM, France. The research leading to these results has also received funding from the European Community’s Seventh Framework Programme FP7/2007-2013 under grant agreement no. 241742 (TEMPOtest-QC).

Transparency declarations
None to declare.

References

J Antimicrob Chemother 2012
doi:10.1093/jac/dks165
Advance Access publication 27 April 2012

Successful treatment of methicillin-resistant Staphylococcus epidermidis prosthetic joint infection with telavancin

Rajit Kaushal1 and Ali Hassoun2*

1 University of Alabama in Birmingham Family Medicine Residency Program, Huntsville, AL, USA; 2 Alabama Infectious Disease Center, Huntsville, AL, USA

*Corresponding author. Tel: +1-256-265-7955; Fax: +1-256-265-7954; E-mail: ali_hasoun@yahoo.com

Keywords: septic arthritis, lipoglycopeptides, MRSE

Sir,

Prosthetic joint infection remains one of the most devastating complications, affecting up to 2% of patients treated with total knee arthroplasty. Such infections are associated with substantial morbidity, increased medical costs and reduced quality of life. Successful treatment of prosthetic joint infections requires a combination of surgical and medical therapies, as antibiotics alone fail to treat most of the infections. We report a case of successful treatment of prosthetic knee joint infection with telavancin, a newly approved lipoglycopeptide antimicrobial.

A middle-aged male underwent bilateral total knee replacement for advanced osteoarthritis. A month later he was seen by his surgeon for worsening right knee discomfort. He underwent arthroscopy and debridement, and the knee aspirate showed no white blood cells (WBCs), no organisms and the culture did not grow any organism. He was admitted 2 months after his joint replacement with fever, significant right knee pain, redness and swelling. He had an elevated WBC count of 15×10⁹/L with joint fluid analysis showing cloudy fluid, a WBC count of 28×10⁹/L, a red blood cell count of 90×10⁹/L and 97% neutrophils. He underwent further debridement and the knee culture grew oxacillin-resistant Staphylococcus epidermidis susceptible to vancomycin (MIC 2 mg/L), daptomycin and rifampicin. His blood cultures were negative. Not enough data are available to recommend for or against the use of vancomycin for the treatment of S. epidermidis infection with a vancomycin MIC of 2 mg/L. The patient was treated with 15 mg/kg vancomycin intravenously every 12 h and 300 mg of rifampicin orally twice.
a day. Vancomycin showed trough levels of 4.9 and 7.2 mg/L on two occasions, and the dose was adjusted accordingly a few times. He presented 2 weeks later with worsening symptoms of the right knee, including redness, swelling and pain. He was switched to 10 mg/kg telavancin intravenously every 24 h and rifampicin was continued. The MIC of telavancin was 0.25 mg/L. During the 6 week therapy with telavancin, the patient showed rapid improvement of symptoms and signs at 2, 4 and 6 week follow-up visits, and antibiotic was discontinued at 6 weeks with resolution of infection. His WBC count returned to normal, C-reactive protein (CRP) decreased from 7 to 0.2 mg/L and the erythrocyte sedimentation rate (ESR) decreased from 60 to 8 mm/h. He had no significant side effects. The patient was symptom free on his subsequent visits at 6 months and 1 year after finishing therapy, with normal WBC count, ESR and CRP.

Coagulase-negative staphylococci (30%–43%) followed by Staphylococcus aureus (12%–23%) are the most commonly cultured microorganisms in prosthetic joint infections. Telavancin is a semi-synthetic lipoglycopeptide derived from vancomycin with activity against Gram-positive bacteria, including strains with reduced susceptibility to vancomycin. It exerts its antibacterial activity by two mechanisms: by inhibiting cell wall synthesis and increasing membrane permeability. Telavancin retains potent activity against methicillin-resistant S. aureus isolates with vancomycin MICs of 2 mg/L. It displays concentration-dependent bactericidal killing, a 7.5 h half-life and a post-antibiotic effect of 4–6 h, allowing for once-daily dosing. Taste disturbance, nausea, headache, foamy urine and reversible kidney injury are the most commonly observed adverse events.

We believe this is the first reported case in the literature using telavancin successfully for the treatment of prosthetic knee joint infection without removal of the hardware, which is usually needed for eradication of the infection.

Funding

No funding was required. Data were generated during the course of routine patient care.

Transparency declarations

None to declare.

References

