Sir,

The current emergence of the carbapenem-hydrolysing class D β-lactamase OXA-48 in Enterobacteriaceae is of great concern, since the corresponding gene is encountered in various enterobacterial species that are often multidrug resistant.1 OXA-48 hydrolysates penicillins at high level and carbapenems at low level; however, its impact on carbapenems is significant, especially when combined with additional mechanisms and, in particular, permeability defects.2 The first identification of OXA-48 producers was from Turkey, where it is now considered endemic.1,3 A rapid dissemination of OXA-48 producers has been observed, and North Africa is now being considered as an additional reservoir.1 The spread of the blaOXA-48 gene is linked to the dissemination of an epidemic 62 kb IncL/M-type and self-conjugative plasmid that has been identified in many clonally unrelated strains and different enterobacterial species from distant geographic areas.3

Recently the blaOXA-48 gene has been identified in Israel and Lebanon, whereas the blaOXA-181 gene (a blaOXA-48 derivative) has been identified in France, India, The Netherlands and Sultanate of Oman, and the blaOXA-163 (another derivative encoding resistance to broad-spectrum cephalosporins) has been identified in Argentina.1 In Kuwait, the only carbapenemase-producing Enterobacteriaceae so far correspond to two recently identified NDM-1-producing Klebsiella pneumoniae.4

Our study was initiated by the isolation of carbapenem-resistant K. pneumoniae from a diabetic patient who had been hospitalized in July 2011 in Kuwait, where she developed gangrene in her left foot. In August, she was transferred to Paris, France, where her left leg was amputated and she underwent prosthesis surgery. Upon admission at the Paris hospital, a rectal swab was performed to screen for multidrug-resistant bacteria. Selection was performed onto a Drigalski plate on which an imipenem-containing disc had been placed, and onto a ChromID ESBL plate (bioMérieux, La Balme-les-Grottes, France). It grew K. pneumoniae strain ALI showing resistance to carbapenems. No secondary transmission occurred at the Paris hospital following the rapid implementation of strict infection control measures.

The antibiogram determined by the disc diffusion method and MICs determined by Etest (Ab bioMérieux, Solna, Sweden) and interpreted according to the CLSI guidelines5 revealed that K. pneumoniae isolate ALI was highly resistant to penicillins and carbapenems, with MICs of ertapenem, imipenem, meropenem and doripenem being >32, 32, 32 and 8 mg/L, respectively. Isolate ALI was fully susceptible to expanded-spectrum cephalosporins, with MICs of ceftazidime and ceftriaxone being 0.5 mg/L. This isolate was susceptible to all quinolones and aminoglycosides, being resistant only to fosfomycin and nitrofurantoin. Multilocus sequence typing

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Keywords: carbapenemases, Enterobacteriaceae, Arabian peninsula

Importation of OXA-48-producing Klebsiella pneumoniae from Kuwait

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References


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(MLST) performed as described previously6 showed that K. pneumoniae ALI belonged to ST743, which is a newly identified sequence type.

PCR mapping performed as described previously7 identified the blaOXA-48 gene that was located on the composite transposon Tn1999. Isolate ALI also possessed an intrinsic blqSHV-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.7 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.3 No other antibiotic resistance marker was co-transferred, as observed previously.3

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.1 Such a finding further highlights the current widespread nature of OXA-48 producers, and further legitimates the current policies implemented in France to screen patients for multidrug-resistant isolates who have been hospitalized abroad.

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Transparency declarations

None to declare.

References


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

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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