Emergence of Klebsiella pneumoniae Coharboring KPC and VIM Carbapenemases in Colombia

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Klebsiella pneumoniae strains cohaboring KPC and VIM carbapenemases have been reported, to the best of our knowledge, only in Greece (1–5) and Germany (6). The coexpression of these two resistance determinants poses a major threat to antibiotic utility worldwide. Herein we report, for the first time in the Americas, a K. pneumoniae isolate harboring blaKPC and blaVIM genes.

In September 2010, a 74-year-old woman presented to the emergency department after acute onset of an ischemic stroke. During hospitalization she developed nosocomial pneumonia, which resulted in intubation and transfer to an intensive care unit (ICU). In the ICU she received multiple antibiotics, including piperacillin-tazobactam, cefepime, meropenem, and vancomycin. On her 15th day of hospitalization, a tracheostomy was performed due to her inability to be weaned from mechanical ventilation. Five days later, due to the persistence of respiratory distress, a culture of bronchial secretion was taken. The laboratory reported a K. pneumoniae isolate (isolate 3359) nonsusceptible to ceftazidime, cefotaxime, ceftriaxone, aztreonam, amikacin, ciprofloxacin, and tigecycline and polymyxin B. The patient was continued on meropenem (2 g intravenously three times a day) with progressive improvement but unfortunately died of ventricular fibrillation after 76 days of hospitalization.

Isolate 3359 was sent to CIDEIM, where the species identification was corroborated using Vitek 2 (bioMérieux, Marcy l’Etoile, France) and antibiotic susceptibility testing was performed using the broth microdilution method (Sensititre panels; TREK Diagnostics Systems, Westlake, OH). According to CLSI 2010 breakpoints (7), the isolate was nonsusceptible to ceftazidime, cefotaxime, ceftriaxone, aztreonam, amikacin, ciprofloxacin, and polymyxin B. The patient was continued on meropenem (2 g intravenously three times a day) with progressive improvement but unfortunately died of ventricular fibrillation after 76 days of hospitalization.

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MLST website (www.pasteur.fr /mlst/Kpneumoniae.html) showed that the isolate belonged to ST-20, which according to that database, has been isolated from human blood, urine, and stool samples in Germany, The Netherlands, Spain, and the United States.

This is the first report of a K. pneumoniae isolate cohaboring blaKPC and blaVIM outside Europe. Given the active propagation of KPC in Colombia (13) and the results of our previous report on VIM-producing Enterobacteriaceae (14), the copresence of these two plasmid-encoded carbapenemases is worrisome, due to the possibility of widespread dissemination and the further limitation on therapeutic options.

ACKNOWLEDGMENTS
We thank the epidemiological surveillance group at Clinica General del Norte. Also, we thank Merck Sharp & Dohme, Janssen-Cilag SA, Pfizer SA, AstraZeneca Colombia SA, Merck Colombia, Novartis, and Baxter SA for supporting the Colombian Nosocomial Resistance Study Group.

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Published ahead of print 10 December 2012
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doi:10.1128/AAC.01666-12


