Klebsiella pneumoniae belonging to ST258 from a New York City Hospital Carrying KPC-2 and VIM-4-Encoding Genes: Report from the SENTINEL Antimicrobial Surveillance System

INTRODUCTION

METHODS-CONTINUED

RESULTS

AMENED ABSTRACT

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• This isolate had elevated expression of the efflux pump AcrAB-TolC (15.3X) and reduced expression of OmpK37.

• The KPC-2- and VIM-4-producing K. pneumoniae detected in this study harbored multiple ß-lactam-resistance mechanisms, including Class 1 integrons, acquired ß-lactamases, plasmid-mediated AmpC cephalosporinase, elevated expression of a tripeptide efflux pump, and resistance to multiple ß-lactams and ß-lactam/cephalosporin combination therapies, which are typical of multidrug-resistant K. pneumoniae strains.

• The presence of two carbapenemases in K. pneumoniae ST258 is of further concern due to the ability of this organism to disseminate.

• This isolate was recovered from a nephrostomy urine collected in 1996 from a patient hospitalized in Cremona, Italy.

• Ten KPC-producing KPN detected in a NY City hospital, one isolate was also positive for blaKPC.

• The isolate also carried aminoglycoside resistance genes like aadA1.-like gene and qacEΔ1/sul1.

• The KPC-2- and VIM-4-producing K. pneumoniae also carried an integron, which included reactions containing target DNA templates for each of the four regions of the class 1 integron followed by the tigecycline product insert [Tygacil Product Insert, 2012].

• This isolate carried KPC-2 VIM-4-producing K. pneumoniae, which was isolated from hospital M12787 in 2004 in the United States.

• This isolate was recovered from the SENTRY Antimicrobial Surveillance Program, we detected one KPC-2- and VIM-4-producing K. pneumoniae, which was isolated from hospital M12787 in 2004 in the United States.

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