

The New Delhi Metallo-Beta-Lactamases: Their Origins and Implication for the Intensivist

Sir,

In the context of increased isolation globally of carbapenem-resistant Enterobacteriaceae (KPC-1 to KPC-10), the emergence of the New-Delhi metallo-beta-lactamase-1 (NDM-1) strain is not surprising. We however question its proposed Asian origin in the recent “Lancet Infectious Diseases” publication.^[1] In the Lancet study,^[1] the fact that there were only 59% of patients with history of travel from, or surgery in, Asia; and their observation “we could not prove statistically significant strain relatedness between the Indian and UK isolates” suggest that acquisition of infection and resistance could have occurred within the UK. More rigid methods — akin to eBURST analysis, which predicted the ancestral clonal complex for Methicillin-resistant *Staphylococcus aureus* (MRSA)^[2] — need to be used to attribute causality.

In India, NDM-1 isolates are increasing.^[3] In our 2,300-bed hospital, 45 carbapenem-resistant *Klebsiella pneumoniae* strains (blood=36, endotracheal aspirate=9), sensitive only to colistin and tigecycline, were characterized by PCR.^[3] Thirty-six (80%) strains expressed the bla_{NDM-1} gene. Three randomly chosen NDM-1 isolates were sequenced and BLAST-matched, with 100% concurrence (Gene-bank no. HQ171206). Given this scenario, in nosocomial sepsis with shock / organ dysfunction, empiric antibiotic therapy may need to be colistin or tigecycline. With few drugs in the horizon to combat multidrug-resistant organisms, global focus should include tackling irrational antibiotic use, ensuring antibiotic stewardship^[4] and strict infection control policies. This task is likely to be more arduous in developing than in developed countries, where measures have been in place for some time.

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