

Against the onslaught of endemic KPC, the war is being lost on the Irish Front.

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Madam,

In the context of the excellent report of successful control of an outbreak of carbapenemase-producing *Klebsiella pneumoniae* in an Italian neonatal intensive care unit published in this journal (1), we wish to report the consequences of the first outbreak of KPC-producing *Klebsiella* in Ireland and how, despite identification of operational factors associated with the incidence and best efforts towards rectifying those, our 410-bed hospital in the West of Ireland is failing to control endemic KPCs. Globally, there is recognition of the significant morbidity and mortality implications associated with emergence of carbapenemase-producing bacteria (2). The resulting vigilance has resulted in enhanced reporting of outbreaks, many being the first of their kind in specific countries (3), and descriptions of molecular studies to determine incidence and transfer of the carbapenemase-encoding blaKPC-harboring IncFIA plasmid between clonal variants (4). With indicative rates of carriage being circa 20%, infection control specialists are reacting with novel techniques for microbiological detection, strategies for prevention of nosocomial transmission, and clinical microbiologists are facing therapeutic challenges related to limited, relatively unproven antimicrobial treatment options.

At our hospital, between January and March 2011, there had been a reduction of 30% in cleaning staff and supervision in parallel with less than 50% overall compliance with hand hygiene protocols. It was to these factors that an outbreak of 9 KPC cases were attributed. These occurred in high dependency (HDU: 4 cases: January & February) and intensive care (ICU: 4 cases: February) units and a dedicated surgical ward (4 cases: March). All strains involved were sensitive to gentamicin, colomycin & tigecycline, and were clonally related (using Pulsed-Field Gel Electrophoresis). PCR confirmed all carried blaKPC-2.

As expected, outbreak management included identification of all affected areas and control of access; an attempt to determine the source; prevention of spread; communication of the risk to all staff, to public health agencies and all receiving hospitals in Ireland. As a consequence of the incidence, which was deemed successfully controlled, there was considerable and rapid investment in on-site molecular technology, enhanced hand hygiene training and surveillance, and introduction of a screening policy whereby all HDU and ICU transfers are isolated until determined to be negative for KPC carriage.

Despite these measures, effective control has proved to be challenging. We have experienced simultaneous incidences of 7 cases in June 2012, 5 cases in January 2014, and 4 cases in April 2014, with significant morbidity and mortality. In light of our inability to date prevent KPCs, we are debating the value of completing a study of local community carriage and revision of empirical first-line treatments, or even prophylaxis.

Conflict of interest statement

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