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Abstract (oral session)

**Molecular epidemiology of New Delhi metallo beta-lactamase (NDM)-producing Enterobacteriaceae as gut-colonisers of hospitalised patients**

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**Objectives:** A new carbapenemase, New Delhi Metallo-beta-lactamase, has been identified amongst Enterobacteriaceae in India and Pakistan. The rate of faecal carriage of NDM producing Enterobacteriaceae among hospitalised patients at a military hospital in Pakistan was 18.5%. Seven NDM cases have been reported in Australia. The molecular epidemiology of NDM producing isolates from Pakistan was determined and compared with the Australian NDM producers. **Methods:** A total of 67 Enterobacteriaceae and Acinetobacter sp that produced NDM-1 carbapenemase were isolated from a military hospital in Pakistan and were characterised for their clonality and resistance to other antibiotics. These isolates comprised of 30 E. coli, 21 E. cloacae, 8 Citrobacter spp., 3 K. pneumoniae, 2 P. rettgeri, and 3 Acinetobacter sp. The Pakistani isolates were compared to 3 E. coli, 2 K. pneumoniae and 1 E. cloacae NDM producers isolated in Australia. All E. coli were determined for their phylogenetic groups. The plasmid replicon types of NDM producers were determined by PCR based method. **Results:** Amikacin resistance due to methylase genes and ESBL production were common amongst NDM producers, 64% and 53%, respectively. The majority of NDM producing E. coli were commensal, phylogenetic group B1 and A. Fifteen E. cloacae (71%) were indistinguishable, which indicated the clonal spread of this clone. There were 2 major clusters of E. coli (n=17), the rest of the E. coli were diverse. One of the E. coli from Australia was identical to the major clone of Pakistani E. coli. The Australian E. cloacae was in the same clone as the major clone of E. cloacae from Pakistan. **Conclusions:** The fact that NDM producing E. coli and E. cloacae from Australian patients were identical to those from Pakistan provides evidence for the importation of these isolates from the Indian sub-continent.