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O1081 Impact of a multidisciplinary control programme for reducing drug-resistant Gram-negative bacillus infections

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Background: Institutional prevention programmes have been developed worldwide to reduce the spread of multidrug resistant gramnegative bacilli (MDRGNB). An outbreak of infections caused by OXA-48-like carbapenemase producing *Klebsiella pneumoniae* occurred in our hospital on August 2015. An intervention that aimed to diminish the prevalence of MDRGNB transmission and infection was implemented.

Materials/methods: We performed a quasi-experimental multidisciplinary control programme study for reducing MDRGNB transmission and infections in a 1550-bed university hospital. This programme started in November 2015 and consisted of: cohorting of carriers in selected units, rectal surveillance cultures in all patients admitted to high risk units (intensive-care units, transplantation, haematology and gastroenterology where the outbreak had occurred), strict contact precautions, intensification of environmental cleaning, intensification of personal training on hand-washing programmes, antimicrobial therapeutic advice and promoting carbapenem-sparing antibiotic treatment, when possible. All patients with the isolation of a MDRGNB (carbapenemase-producing Enterobacteriaceae, XDR *Pseudomonas aeruginosa*, carbapenem-resistant *Acinetobacter baumanii*) from January 2015 to September 2018 were included. Pre-intervention (January-November 2015) and post-intervention (December 2015-September 2018) incidence rates of MDRGNB infections were analysed.

Results: During the study period 1235 episodes of MDRGNB infection or colonization were recorded in 707 patients. The incidence of infection was 3.81 cases/1000 patients per month in 2015, 2.43 in 2016, 1.19 in 2017 and 1.08 in 2018. Among them, the incidence of bacteraemia was 0.70 cases/1000 patients per month in 2015, 0.50 in 2016, 0.28 in 2017 and 0.24 in 2018. As part of the intervention, carbapenems use was significantly reduced (12.4 DDD per 100 bed-days in the pre-intervention phase *vs* 9.3 DDD per 100 bed-days in the post-intervention phase, p=0.01). When we compared pre-intervention and post-intervention incidences, we observed a significant decrease in infections (3,88 vs 1.66, p<0.001) and bacteremias (0.69 vs 0.36, p=0.04).

Conclusions: A multidisciplinary intervention programme significantly reduced the rates of MDRGNB infections, bacteremia, and carbapenems use in a high-complexity hospital.