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Abstract (poster session)

KPC-3 Klebsiella pneumoniae ST258 clone infection in postoperative abdominal surgery patients in an intensive care setting: analysis of a case series of 30 patients

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Objective: We studied the clinical course, Intensive Care Unit (ICU) and hospital outcomes of 30 postoperative abdominal surgery patients who showed severe infections caused by Klebsiella pneumoniae Sequence Type 258 producing K. pneumoniae carbapenemase 3 (KPC-Kp). Methods: Patients with at least two positive blood cultures for KPC-Kp after admission to the ICU were recruited for a 12-month period and treated with a combination regimen of colistin plus tigecycline. They were started on a high-dose (initial dose of 200 mg then 100 q12) of tigecycline combined with colistin, taking into account intra-abdominal abscess severity and MCIs for tigecycline. Results: The average age of the patients was 56.6 ± 15 (male = 16, female = 14), average APACHE score on admission was 22.72. Twenty out of 30 patients (66%) came from the surgical emergency unit. Patients showed KPC-Kp postoperative infection as follows: intra-abdominal abscess in 15 patients (50%), anastomotic leakage in 8 (24%), surgical site infection (SSI) in 4 (12%) and peritonitis in 3 (10%). Overall crude mortality rate in the ICU due to infection was 40% (12 out of 30 patients). Twelve out of 30 patients (40%) were started on a combination treatment of high-dose tigecycline and intravenous colistin; five of them showed tigecycline MICs of 0.8 - 1. Mortality was significantly associated with a greater number of surgical procedures, previous ICU admission (<0.0005), APACHE II (p=0.018)and SOFA score (p<0.0005) and VAP (0.013). Treatment with high doses of tigecycline obtained a favourable outcome in patients with intra-abdominal abscess. Discussion: Critically-ill surgical patients with KPC-Kp infections have to be treated in a timely manner, taking into account the severity of post-operative complications such as intra-abdominal abscess and anastomotic leakage. In these cases, early suspicion and detection are essential to reducing infection-related morbidity and mortality. Finally, studies evaluating antibiotic combination therapy and well-controlled clinical trials are needed to define the optimal treatment of infections caused by KPC-Kp and, more generally, carbapenem-resistant bacteria.