

P2602 Emergence of multidrug-resistant microorganisms in acute pancreatitis in four intensive care unit

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Background: Several recent single-centre studies have described the impact of antibiotic therapy (ABT) on the emergence of multidrug resistant organisms (MDRO) in patients with acute pancreatitis (AP). In a multicentre retrospective (2009-2015) database, the emergence of MDRO and their risk factors were assessed in patients admitted for AP in 4 intensive care units (ICUs).

Materials/methods: Clinical characteristics and organ support therapies were recorded during the first 30 days of hospital stay. Empirical and documented ABT were recorded from admission until Day-30. Emergence of MDRO in clinical samples was recorded during the hospital stay. The primary outcome was all-cause hospital mortality. Secondary outcomes were infectious complications of AP (e.g., organ failure, sepsis) and therapeutic interventions from baseline to Day-30. Results are presented in medians (extremes) or proportions. Risk factors of emergence of MDRO were assessed in a multivariate logistic regression model.

Results: Among 255 ICU patients, 49 patients (19% (8-31) per centre) developed infection involving MDRO during their hospital stay. Among the 133 patients receiving ABT from the ICU admission, 25 (19%) MDRO were subsequently identified. At Day-30, 173 patients have been receiving ABT, leading to emergence of 45 (26%) MDRO. The most frequent MDRO were ESBL-producing *Enterobacteriaceae* (n=36), methicillin-resistant *Staphylococcus aureus* (n=12) and *Pseudomonas aeruginosa* (n=16). Among these microorganisms, 56%, 50% and 63% of them respectively were cultured in patients receiving ABT from ICU admission. Neither underlying disease nor clinical presentation were associated to emergence of MDRO. In multivariate analysis, two risk factors of emergence of MDRO were identified: carbapenem use on ICU admission (adjusted odds ratio [95% confidence interval]: 3.57 [1.05-12.08]; p<0.001) and duration of ICU stay (1.74 [1.44-2.11] p<0.01). Patients with MDRO had similar hospital mortality rates than those without MDRO (15/49 (31%) versus 46/206 (22%), respectively). However, the emergence of MDRO was associated with increased rates of septic shock (45 vs 21%, p<0.001), infected necrosis (49 vs 15%, p<0.001), and surgical management (41 vs 22%, p<0.01).

Conclusions: Impact of ABT in the management of AP starts from the admission. Carbapenem could play a major role in the emergence of MDRO.