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P1134 Outcomes and predictors of mortality of carbapenem-resistant non-fermenters infections in a large tertiary hospital: a retrospective cohort study

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Background: Carbapenem-resistant non-fermenters including *Acinetobacter baumannii* (CRAB) and *Pseudomonas aeruginosa* (CRPA) infections are a clinical challenge due to increased mortality and the lack of viable treatment options. This study described antimicrobial treatment regimens, clinical outcomes, and predictors of mortality in these infections.

Materials/methods: A retrospective cohort study of clinically-significant CRAB and CRPA infections was conducted in a 1700-bedded tertiary hospital in 2015. The primary outcome evaluated was 30-day all-cause in-hospital mortality. Multivariable logistic regression was employed to identify predictors of mortality among cases who received definitive treatment (treatment after availability of susceptibility results). Active therapy was defined as receipt of ≥ 1 *in vitro* active agent.

Results: Within a single year, 134 cases (CRAB–78, CRPA–45, CRAB+CRPA–11) were identified. The most common infections were skin and soft tissue infections (34%), pneumonia (30%) and urinary tract infections (15%). Only 4% of the infections involved ≥ 1 non-blood sites. Bloodstream involvement was observed in 12% of cases. The isolates were multidrug-resistant, retaining susceptibility only to amikacin (CRAB–22%, CRPA–49%), polymyxin B (CRAB–99%, CRPA–100%) and tigecycline (CRAB–89%). At time of infection onset, the median (IQR) APACHE II was 15 (9–22); 28% was warded in the ICU and 9% had septic shock. Only 14% were immunocompromised. 117 out of the 134 patients received definitive treatment and were included in the outcomes analysis. Of these, 63% received active therapy. The median (IQR) time to active therapy was 3 (2–5) days. Combination therapy was prescribed for 58% of the patients, of which 72% received polymyxin-based combinations. The most common combination was polymyxin + carbapenem. The 30-day mortality and clinical response was 20% and 77% respectively. After adjustment for age, infection type, and receipt of combination therapy, SOFA score (OR 1.16, 95%CI 1.01–1.35) was the only independent predictor for mortality.

Conclusions: Carbapenem-resistant non-fermenter infections are common in our hospital, but do not appear to be associated with high mortality rates in patients who received definitive treatment. Mortality among patients with carbapenem-resistant non-fermenter infections appeared to be associated with patient's underlying severity of illness and not choice of therapy.