P1230
Paper Poster Session
Colistin and polymyxin B pharmacokinetics

Comparison of continuous versus intermittent intravenous infusion of colistimethate sodium (colistin) for treatment of carbapenem-resistant Gram-negative bacterial infections

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Background: At UCLA medical center, colistimethate sodium (CMS) is often administered via continuous infusion (CI) with the intention to minimize toxicity. Published literature describing this dosing regimen is limited to 1 patient who received a total daily dose of 160mg, although the CMS package insert lists CI as a dosing option.

Material/methods: This was a comparative evaluation of adult inpatients at UCLA medical center who received CMS by continuous (CI) or intermittent intravenous infusion (II) between 11/2014 – 3/2015. Data were collected retrospectively. Clinical and microbiological outcomes were assessed with descriptive statistics. Nephrotoxicity was defined according to the risk–injury–failure–loss–end-stage renal disease (RIFLE) classification scheme, in subjects not on renal replacement therapy (RRT) at baseline. Clinical success and neurotoxicity were assessed per documentation in the medical record.

Results: 29 subjects received IV CMS, 11 by CI and18 by II. Median age was 53 years, 22/29 were male. 10/11 patients in the CI group and 16/18 patients in the II group were admitted to the intensive care unit. Duration of therapy ranged from 1 to 72 days. Median duration was 9.5 days in the II group and 14 days in the CI group. Patients in the CI group received lower doses of CMS compared to the II group. The average loading and maintenance doses for the CI and II groups were 275mg and 182mg, and 283mg and 225mg, respectively. All subjects received CMS in combination with at least 1 other antibiotic. Five out of 11 patients in the CI group developed nephrotoxicity, compared to 7/18 patients in the II group. Neurotoxicity was documented in 1 patient who received CMS by II. Clinical cure or improvement was documented for 4/7 subjects in the CI group and 9/18 in the CI group. Survival to discharge was noted in 6/7 patients who received CMS by CI and 10/18 who received CMS by II. Carbapenem-resistant *Enterobacteriaceae* was the most commonly isolated pathogen in both groups (50%), followed by multi-drug resistant *Pseudomonas* spp. (34%). Thirty three percent of patients in the II group demonstrated bacterial eradication compared to 9% of patients in the CI group. Positive cultures persisted for at least 5 days in 6/11 and 4/18 patients in the CI and II groups, respectively

Conclusions: Administering CMS by CI did not reduce toxicity despite administration of lower doses. Bacterial persistence occurred in >50% of subjects who received CMS by CI compared to 20% of those who received CMS by II, even though all patients received CMS in combination with other antibiotic therapy. These data demonstrate no therapeutic advantage to administering CMS by continuous infusion.