P. aeruginosa CI (0.058–0.597). In a pre-determined subgroup analysis, clinical cure rates varied in time to clinical cure (2.8 days (1.6–5.8) vs. 2.0 (1.2–2.9), in-hospital mortality rates were similar between both groups (2.4% vs. 3.4%, P = 0.076, 95% CI 1.1–2.5), respiratory rate >22/min or mechanical ventilation (aOR 2.1, 95% CI 1.4–3.2), adjusted mortality rate (aOR 4.5, 95% CI 2.1–9.1), and percentage of patients with an ECFC ≥12 × 10^9/mm^3 (aOR 2.7, 95% CI 1.8–4.1) at 72–96 hours from index ISI. Area under operating characteristic curve of ECFC model in predicting unfavorable outcomes was 0.77 (0.94 and 0.61 in predicting 28-day mortality and prolonged hospitalization separately, respectively). Predicted 28-day mortality increased from 1% in patients with no ECFC to 3%, 7%, 16%, 32%, and 54% in presence of each additional criterion (P < 0.001). Predicted hospital length of stay was 7.5 days in patients without any ECFC and increased by 4.0 days (95% CI 3.1–4.9, P = 0.001) in presence of each additional criterion. Conclusion. Risk of death in the first 48 hours of Gram-negative bloodstream infection can be estimated within 72–96 hours of GN-BSI using ECFC. These criteria may have utility in future clinical research in assessing response to antimicrobial therapy based on a standard evidence-based definition of early clinical failure.

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1044. Aztreonam (AZT) vs. Cefephalosporin (CEP) Therapy for the Treatment of Gram-Negative Bacteremia
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Background. The IDSA recommends use of AZT in patients with a confirmed beta-lactam allergy for nosocomial Gram-negative infections. Despite this recommendation, there is limited data to suggest AZT is inferior to cefephalosporins (CEP) for the treatment of Gram-negative bloodstream infections. This study aims to calculate clinical outcomes in bacteremic patients treated with either AZT or CEP therapy.

Methods. A single-center, retrospective chart review of adult patients with positive blood cultures for Escherichia coli, Klebsiella pneumoniae or Pseudomonas aeruginosa was conducted to compare clinical outcomes between those who received ≥48 hours of AZT or CEP therapy (ceftazidime or ceftriaxone). The following outcomes were assessed: clinical cure, in-hospital mortality, post-infection length of stay (LOS), post-infection intensive care unit LOS, microbiologic cure and leukocytosis resolution.

Results. One-hundred and twenty-nine patients met criteria for evaluation: 41 received AZT and 88 received CEP therapy. Patients who received AZT were more likely to have renal dysfunction (34.1% vs. 18.2%, P = 0.046), receive synergistic antimicrobials (61% vs. 28.4%, P = 0.001) and had a longer pre-infection LOS (1 day [0–2] vs. 0 [0–1], P = 0.032) compared with those who received CEP. Although in-hospital mortality rates were similar between both groups (2.4% vs. 3.4%, P = 1.000), there was a statistically significant difference in clinical cure rates (70.7% vs. 90.9%, P = 0.003), post-infection length of stay (7 days [5–10] vs. 5 [4–8], P = 0.007), and time to clinical cure (2.8 days [1.6–5.8] vs. 2.0 [1.2–2.9], P = 0.018) in the AZT and CEP groups respectively. In a multivariate logistic regression model, patients who received AZT were significantly less likely to achieve clinical cure (OR=0.187, 95% CI (0.058–0.597)). In a pre-determined subgroup analysis, clinical cure rates varied in E. coli (72% vs. 94.4%, P = 0.009), K. pneumoniae (70% vs. 90.5%, P = 0.026) and P. aeruginosa (66.7% vs. 100%, P = 0.000). Conclusion. Patients who receive aztreonam for Gram-negative bacteremia may be more likely to experience clinical failure. Larger, prospective studies are warranted to confirm these findings.

Disclosures. All authors: No reported disclosures.