**Supplemental Table 1** Baseline Characteristics of Patients and Clinical Isolates CP-CRE and Non-CP-CRE Bacteremia

|  |  |  |  |
| --- | --- | --- | --- |
| Variable | CP-CRE  (n=13, 13.1%) | Non-CP-CRE  (n=86, 86.9%) | P Value |
| Age  < 65  ≥ 65 | 8 (61.5)  5 (38.5) | 25 (29.1)  61(70.9) | 0.029 |
| Sex  Male  Female | 9 (69.2)  4 (30.8) | 48 (55.8)  38 (44.2) | 0.362 |
| Preexisting Medical Conditions  Diabetes  End-Stage Renal Disease  Liver Cirrhosis | 3 (23.1)  4 (30.8)  1 (8.3) | 40 (46.5)  16 (18.6)  6 (7.0) | 0.13  0.32  0.86 |
| Immunocompromised  Solid Tumor  Hematologic Malignancies | 4 (30.8)  0 (0.0) | 33 (38.4)  5 (5.9) | 0.60  > 0.999 |
| Respiratory Failure after onset of BSI | 8 (61.5) | 27 (31.4) | 0.04 |
| Steroid use within 3 days prior to BSI | 1 (7.7) | 21 (25) | 0.20 |
| Chemotherapy within 3 days prior to BSI | 0 (0.0) | 5 (5.9) | > 0.999 |
| Intravascular catheter within 3 days prior to BSI | 7 (53.8) | 45 (52.3) | 0.92 |
| Mechanical ventilation (invasive or non-invasive) at time of BSI | 7 (53.8) | 20 (23.3) | 0.03 |
| Prior use of broad-spectrum antibiotics within 30 days of BSI  Fluoroquinolone  Carbapenem  Cephalosporine  Tigecycline  Colistin  Amikacin  Piperacillin/Tazobactam  Amoxicillin/Clavulanate OR Ampicillin/Sulbactam | 6 (50.0)  6 (50.0)  8 (58.3)  3 (25.0)  2 (16.7)  0 (0.00)  5 (41.7)  6 (50.0) | 27 (31.8)  31 (36.5)  54 (62.8)  9 (10.6)  10 (11.8)  2 (2.4)  13 (15.3)  24 (28.2) | 0.22  0.37  0.79  0.17  0.63  > 0.999  0.04  0.60 |
| Treated with ≥ 1 active empirical antibiotic treatment (post-blood culture collection) | 3 (25.0) | 28 (32.9) | 0.746 |
| Treated with ≥ 1 active empirical antibiotic culture results available (within 3 days) | 6 (50) | 65 (77.4) | 0.073 |
| Length of hospitalization (median, IQR) | 44 (42) | 29 (47) | 0.24 |
| 7-Day Mortality Rate | 3 (23.1) | 16 (18.6) | 0.710 |
| 28-Day Mortality Rate | 5 (38.5) | 33 (38.4) | > 0.999 |

Abbreviations: BSI: Bloodstream infection; CP-CNSE: Carbapenemase-producing carbapenem nonsusceptible Enterobacteriaceae isolates containing carbapenemase producing genes: *bla*KPC, *bla*VIM, *bla*IMP, *bla*OXA-48 and *bla*NDM; IQR: inter-quartile range.

**Supplemental Table 2** Identification of β-Lactamase Genes in CRE Bloodstream Isolates

|  |  |  |  |
| --- | --- | --- | --- |
| Ambler Class | Type of Plasmid-Mediated β-Lactamase | CP-CRE Isolates  (n = 13) | Non-CP-CRE Isolates  (n = 86) |
| Class A  *bla*TEM  *bla*TEM *bla*ACT/MIR  *bla*SHV  *bla*SHV *bla*ACT/MIR  *bla*SHV *bla*DHA  *bla*CTX-M *bla*SHV  *bla*TEM *bla*SHV  *bla*TEM *bla*CTX-M *bla*SHV  *bla*CTX-M *bla*SHV *bla*DHA  *bla*SHV *bla*TEM *bla*DHA  *bla*CTX-M *bla*SHV *bla*TEM *bla*DHA  *bla*CTX-M *bla*TEM *bla*DHA  *bla*CTX-M *bla*SHV *bla*TEM  *bla*DHA  *bla*CTX-M  *bla*KPC  *bla*KPC *bla*TEM *bla*CTX-M *bla*SHV  *bla*KPC *bla*CTX-M *bla*SHV  *bla*KPC *bla*TEM *bla*SHV  *bla*KPC *bla*DHA *bla*CTX-M *bla*SHV  *bla*KPC *bla*ACT/MIR  *bla*KPC *bla*ACT/MIR *bla*TEM  *bla*KPC *bla*ACT/MIR *bla*CMY-II *bla*SHV *bla*TEM  *bla*KPC *bla*TEM  *bla*KPC *bla*SHV *bla*DHA | Narrow spectrum β-Lactamase  ESBL + AmpC  Narrow spectrum β-Lactamase  ESBL + AmpC  ESBL + AmpC  Narrow spectrum β-Lactamase + ESBL  Narrow spectrum β-Lactamase  Narrow spectrum β-Lactamase + ESBL  Narrow spectrum β-Lactamase + ESBL + AmpC  ESBL + AmpC  Narrow spectrum β-Lactamase + ESBL + AmpC  Narrow spectrum β-Lactamase + ESBL + AmpC  Narrow spectrum β-Lactamase + ESBL  AmpC  Narrow spectrum β-Lactamase  Carbapenemase  ESBL + Carbapenemase  ESBL + Carbapenemase  ESBL + Carbapenemase  ESBL + Carbapenemase + AmpC  Carbapenemase + AmpC  ESBL + Carbapenemase + AmpC  ESBL + Carbapenemase + AmpC  ESBL + Carbapenemase  ESBL + Carbapenemase + AmpC | -  -  -  -  -  -  -  -  -  -  -  -  -  -  -  -  2  2  1  1  -  -  -  -  1 | -  -  4  -  8  5  2  1  24  11  9  1  1  3  2  -  -  -  -  -  -  -  -  -  - |
| Class B  *bla*NDM  *bla*NDM *bla*CTX-M  *bla*NDM *bla*TEM *bla*CTX-M *bla*SHV  *bla*NDM *bla*DHA *bla*CTX-M *bla*SHV  *bla*IMP *bla*SHV  *bla*IMP *bla*TEM  *bla*IMP *bla*SHV *bla*TEM *bla*CMY-II  *bla*IMP *bla*SHV *bla*TEM *bla*DHA  *bla*VIM *bla*SHV *bla*DHA | Carbapenemase  ESBL + Carbapenemase  ESBL + Carbapenemase  ESBL + Carbapenemase + AmpC  ESBL + Carbapenemase  ESBL + Carbapenemase  ESBL + Carbapenemase + AmpC  ESBL + Carbapenemase + AmpC  ESBL + Carbapenemase + AmpC | -  -  -  -  1  1  1  1  1 | -  -  -  -  -  -  -  -  - |
| Class C  *bla*CMY-II  *bla*CTX-M *bla*CMY-II  *bla*CTX-M *bla*TEM *bla*CMY-II  *bla*TEM *bla*CMY-II  *bla*CTX-M *bla*SHV *bla*CMY-II  *bla*ACT/MIR | AmpC  ESBL + AmpC  ESBL + AmpC  ESBL + AmpC  ESBL + AmpC  AmpC | -  -  -  -  -  - | 2  3  3  6  1  - |
| Class D  *bla*OXA-48 *bla*CTX-M *bla*SHV *bla*TEM |  | 1 | - |
| Abbreviations: CP, carbapenemase-producing; CRE, carbapenem-resistant *Enterobacteriaceae*; ESBL, extended-spectrum β-lactamases. | | | |