

## Supplementary Material

### Use of hospital resources due to carbapenem-resistant Gram-negative bacteria: a real clinical-practice-based study in Spain

**Table S1.** Other primary diagnoses at hospital admission (collected in the category “Other” from of the electronic Case Report Form)

| Other hospital admission diagnoses                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• Respiratory insufficiency</li> <li>• Cardiac insufficiency</li> <li>• Politraumatism</li> <li>• Urinary infection</li> <li>• Hemorrhagic cystitis</li> <li>• Hepatic failure</li> <li>• General syndrome</li> <li>• Endocarditis</li> <li>• Rectorrhagia</li> <li>• Gastrointestinal bleeding</li> <li>• Obstructive jaundice</li> <li>• Pulmonary emphysema and pneumothorax</li> <li>• Pancreatitis</li> <li>• Hyperglycemic decompensation</li> <li>• Rabdomiolisis</li> <li>• Study of deterioration of kidney function</li> <li>• Cerebellar and disautonomic syndrome</li> <li>• Guillain-Barré syndrome</li> <li>• Percutaneous nephrostomy</li> <li>• Cellular rejection kidney transplant</li> <li>• Colon neoplasia surgery</li> <li>• Percutaneous nephrostomy</li> </ul> |

**Table S2.** Distribution of antibiotics prescribed as monotherapy in CRGN patients and most frequent combined antibiotic therapy

|                                                | n  |
|------------------------------------------------|----|
| <b>Monotherapy antibiotics</b>                 |    |
| Colistin                                       | 15 |
| Levofloxacin                                   | 9  |
| Cotrimoxazole                                  | 7  |
| Meropenem                                      | 7  |
| Piperacillin/tazobactam                        | 7  |
| Ciprofloxacin                                  | 5  |
| Ceftazidime                                    | 5  |
| Ceftolozane/tazobactam                         | 4  |
| Tobramycin                                     | 3  |
| Ceftazidime/avibactam                          | 3  |
| Amikacin                                       | 1  |
| Cefotaxime                                     | 1  |
| Amoxicillin clavulanic                         | 1  |
| <b>Most common combined antibiotic therapy</b> |    |
| Colistin + tigecycline                         | 18 |
| Colistin + meropenem                           | 9  |
| Colistin + cotrimoxazole                       | 3  |
| Colistin + piperacillin/tazobactam             | 3  |
| Colistin + ceftazidime                         | 2  |

**Table S3.** Differences between groups split by site

|                                                     | VdH<br>(n=50) |       | CHUS<br>(n=50) |       | HUVN<br>(n=30) |       | F     | p Value              |
|-----------------------------------------------------|---------------|-------|----------------|-------|----------------|-------|-------|----------------------|
|                                                     | Mean          | SD    | Mean           | SD    | Mean           | SD    |       |                      |
| Days in ICU                                         | 39.9          | 34.65 | 19.4           | 15.90 | 43.1           | 26.97 | 10.13 | 0.001* <sup>‡§</sup> |
| Total hospitalization days                          | 67.9          | 36.63 | 49.4           | 37.58 | 66.2           | 30.67 | 3.87  | 0.023* <sup>‡</sup>  |
| Days in isolation                                   | 32.6          | 26.13 | 25.3           | 26.00 | 56.8           | 45.31 | 6.05  | 0.003* <sup>‡§</sup> |
| Days from hospital admission to CRGN identification | 31.7          | 21.18 | 20.3           | 17.27 | 30.9           | 19.77 | 5.04  | 0.008* <sup>‡</sup>  |
| Days from ICU admission to CRGN identification      | 22.9          | 20.55 | 8.9            | 8.59  | 22.2           | 20.04 | 10.35 | 0.001* <sup>‡§</sup> |
| Days in antibiotic treatment                        | 16.4          | 17.31 | 9.0            | 7.18  | 10.3           | 6.76  | 5.06  | 0.008* <sup>‡</sup>  |
| Days in ventilation                                 | 38.9          | 32.19 | 17.6           | 15.82 | 35.7           | 20.87 | 8.28  | 0.001* <sup>‡§</sup> |
| Days in dialysis                                    | 25.6          | 34.75 | 7.9            | 6.93  | 25.5           | 17.54 | 3.22  | 0.059                |

Abbreviations: CHUS = Santiago University Hospital; CRGN = Carbapenem-resistant gram negative bacteria; HUVN = Virgen de la Macarena Hospital; ICU = intensive care unit; SD = standard deviation; VdH = Vall d'Hebron Hospital

\*p<0.05

Post-hoc tests of pair-wise differences: <sup>‡</sup> VdH – CHUS, <sup>†</sup> VdH – HUVN, <sup>§</sup> CHUS – HUVN

**Table S4.** Differences between groups split by diagnosis at admission

|                                                     | Septic shock<br>(n=28) |       | Other diagnosis<br>(n=102) |       | t     | p Value |
|-----------------------------------------------------|------------------------|-------|----------------------------|-------|-------|---------|
|                                                     | Mean                   | SD    | Mean                       | SD    |       |         |
| Days in ICU                                         | 20.6                   | 21.09 | 36.1                       | 29.82 | -2.57 | 0.011*  |
| Total hospitalization days                          | 40.7                   | 23.48 | 65.8                       | 37.68 | -4.33 | 0.001*  |
| Days in isolation                                   | 18.6                   | 14.68 | 36.7                       | 32.75 | -3.90 | 0.001*  |
| Days from hospital admission to CRGN identification | 17.3                   | 13.35 | 29.8                       | 20.74 | -3.86 | 0.001*  |
| Days from ICU admission to CRGN identification      | 8.9                    | 12.46 | 19.7                       | 18.62 | -3.62 | 0.001*  |
| Days in antibiotic treatment                        | 8.5                    | 11.01 | 13.2                       | 12.66 | -1.77 | 0.079   |
| Days in ventilation                                 | 23.9                   | 20.70 | 32.3                       | 27.53 | -1.29 | 0.201   |
| Days in dialysis                                    | 11.8                   | 9.45  | 17.6                       | 23.09 | -0.90 | 0.380   |

Abbreviations: CRGN = Carbapenem-resistant Gram-negative bacteria; ICU = intensive care unit; SD = standard deviation

\*p<0.05

**Table S5.** Differences between groups split by admission ward

|                                                     | ICU admission<br>(n=41) |       | Other ward<br>admission<br>(n=89) |       | t     | p Value |
|-----------------------------------------------------|-------------------------|-------|-----------------------------------|-------|-------|---------|
|                                                     | Mean                    | SD    | Mean                              | SD    |       |         |
| Days in ICU                                         | 29.8                    | 23.34 | 34.1                              | 31.03 | -0.80 | 0.427   |
| Total hospitalization days                          | 48.3                    | 30.35 | 65.9                              | 37.91 | -2.62 | 0.010*  |
| Days in isolation                                   | 26.8                    | 25.22 | 35.3                              | 32.62 | -1.40 | 0.165   |
| Days from hospital admission to CRGN identification | 18.9                    | 17.08 | 30.9                              | 20.23 | -3.30 | 0.001*  |
| Days from ICU admission to CRGN identification      | 18.8                    | 17.08 | 16.7                              | 18.46 | 0.65  | 0.517   |
| Days in antibiotic treatment                        | 11.4                    | 10.73 | 12.5                              | 13.18 | -0.44 | 0.664   |
| Days in ventilation                                 | 31.5                    | 25.15 | 30.5                              | 27.32 | 0.20  | 0.841   |
| Days in dialysis                                    | 10.0                    | 8.25  | 17.4                              | 21.51 | -0.87 | 0.391   |

Abbreviations: CRGN = Carbapenem-resistant Gram-negative bacteria; ICU = intensive care unit; SD = standard deviation

\*p<0.05