Scientific Reports Paper Supplementary Data

The figures shown are the number and percentage of responses in each antibiotic susceptibility category for each time period. The final column shows p-values from the analyses, indicating the significance of the differences between the three periods

*Table 1: Ward A showers*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Antibiotic | Antibiotic susceptibility | Period 1  n (%) | Period 2  n (%) | Period 3  n (%) | P-value |
|  |  |  |  |  |  |
| Amikacin | Sensitive | 7 (100%) | 16 (100%) | 11 (92%) | 0.39 |
|  | Intermediate | 0 (0%) | 0 (0%) | 0 (0%) |  |
|  | Resistant | 0 (0%) | 0 (0%) | 1 (8%) |  |
|  |  |  |  |  |  |
| Tobramycin | Sensitive | 7 (100%) | 15 (94%) | 11 (92%) | 0.75 |
|  | Intermediate | 0 (0%) | 0 (0%) | 0 (0%) |  |
|  | Resistant | 0 (0%) | 1 (6%) | 1 (8%) |  |
|  |  |  |  |  |  |
| Piperacillin | Sensitive | 0 (0%) | 0 (0%) | 0 (0%) | 1.00 |
|  | Intermediate | 7 (100%) | 16 (100%) | 12 (100%) |  |
|  | Resistant | 0 (0%) | 0 (0%) | 0 (0%) |  |
|  |  |  |  |  |  |
| Piperacillin- | Sensitive | 0 (0%) | 0 (0%) | 0 (0%) | 1.00 |
| tazobactam | Intermediate | 7 (100%) | 16 (100%) | 12 (100%) |  |
|  | Resistant | 0 (0%) | 0 (0%) | 0 (0%) |  |
|  |  |  |  |  |  |
| Ticarcillin- | Sensitive | 0 (0%) | 0 (0%) | 0 (0%) | 1.00 |
| clavulanic acid | Intermediate | 7 (100%) | 16 (100%) | 12 (100%) |  |
|  | Resistant | 0 (0%) | 0 (0%) | 0 (0%) |  |
|  |  |  |  |  |  |
| Meropenem | Sensitive | 7 (100%) | 16 (100%) | 12 (100%) | 1.00 |
|  | Intermediate | 0 (0%) | 0 (0%) | 0 (0%) |  |
|  | Resistant | 0 (0%) | 0 (0%) | 0 (0%) |  |
|  |  |  |  |  |  |
| Imipenem | Sensitive | 0 (0%) | 0 (0%) | 0 (0%) | 0.74 |
|  | Intermediate | 6 (86%) | 13 (81%) | 11 (92%) |  |
|  | Resistant | 1 (14%) | 3 (19%) | 1 (8%) |  |
|  |  |  |  |  |  |
| Ciprofloxacin | Sensitive | 0 (0%) | 0 (0%) | 0 (0%) | 0.55 |
|  | Intermediate | 7 (100%) | 15 (94%) | 12 (100%) |  |
|  | Resistant | 0 (0%) | 1 (6%) | 0 (0%) |  |
|  |  |  |  |  |  |
| Ceftazidime | Sensitive | 0 (0%) | 0 (0%) | 0 (0%) | 1.00 |
|  | Intermediate | 7 (100%) | 16 (100%) | 12 (100%) |  |
|  | Resistant | 0 (0%) | 0 (0%) | 0 (0%) |  |
|  |  |  |  |  |  |
| Cefepime | Sensitive | 0 (0%) | 0 (0%) | 0 (0%) | **0.03** |
|  | Intermediate | 4 (57%) | 16 (100%) | 10 (83%) |  |
|  | Resistant | 3 (43%) | 0 (0%) | 2 (17%) |  |
|  |  |  |  |  |  |
| Aztreonam | Sensitive | 0 (0%) | 0 (0%) | 0 (0%) | 0.39 |
|  | Intermediate | 7 (100%) | 16 (100%) | 11 (92%) |  |
|  | Resistant | 0 (0%) | 0 (0%) | 1 (8%) |  |
|  |  |  |  |  |  |

*Table 2: Ward A drains*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Antibiotic | Antibiotic susceptibility | Period 1  n (%) | Period 2  n (%) | Period 3  n (%) | P-value (\*) |
|  |  |  |  |  |  |
| Amikacin | Sensitive | 2 (100%) | 8 (100%) | 15 (100%) | 1.00 |
|  | Intermediate | 0 (0%) | 0 (0%) | 0 (0%) |  |
|  | Resistant | 0 (0%) | 0 (0%) | 0 (0%) |  |
|  |  |  |  |  |  |
| Tobramycin | Sensitive | 2 (100%) | 8 (100%) | 15 (100%) | 1.00 |
|  | Intermediate | 0 (0%) | 0 (0%) | 0 (0%) |  |
|  | Resistant | 0 (0%) | 0 (0%) | 0 (0%) |  |
|  |  |  |  |  |  |
| Piperacillin | Sensitive | 0 (0%) | 0 (0%) | 0 (0%) | 1.00 |
|  | Intermediate | 2 (100%) | 8 (100%) | 15 (100%) |  |
|  | Resistant | 0 (0%) | 0 (0%) | 0 (0%) |  |
|  |  |  |  |  |  |
| Piperacillin- | Sensitive | 0 (0%) | 0 (0%) | 0 (0%) | 1.00 |
| tazobactam | Intermediate | 2 (100%) | 8 (100%) | 15 (100%) |  |
|  | Resistant | 0 (0%) | 0 (0%) | 0 (0%) |  |
|  |  |  |  |  |  |
| Ticarcillin- | Sensitive | 0 (0%) | 0 (0%) | 0 (0%) | 1.00 |
| clavulanic acid | Intermediate | 2 (100%) | 8 (100%) | 15 (100%) |  |
|  | Resistant | 0 (0%) | 0 (0%) | 0 (0%) |  |
|  |  |  |  |  |  |
| Meropenem | Sensitive | 2 (100%) | 8 (100%) | 13 (87%) | 0.29 |
|  | Intermediate | 0 (0%) | 0 (0%) | 2 (13%) |  |
|  | Resistant | 0 (0%) | 0 (0%) | 0 (0%) |  |
|  |  |  |  |  |  |
| Imipenem | Sensitive | 0 (0%) | 0 (0%) | 0 (0%) | 0.66 |
|  | Intermediate | 2 (100%) | 7 (87%) | 12 (80%) |  |
|  | Resistant | 0 (0%) | 1 (13%) | 3 (20%) |  |
|  |  |  |  |  |  |
| Ciprofloxacin | Sensitive | 0 (0%) | 0 (0%) | 0 (0%) | 1.00 |
|  | Intermediate | 2 (100%) | 8 (100%) | 15 (100%) |  |
|  | Resistant | 0 (0%) | 1 (6%) | 0 (0%) |  |
|  |  |  |  |  |  |
| Ceftazidime | Sensitive | 0 (0%) | 0 (0%) | 0 (0%) | 1.00 |
|  | Intermediate | 2 (100%) | 8 (100%) | 15 (100%) |  |
|  | Resistant | 0 (0%) | 0 (0%) | 0 (0%) |  |
|  |  |  |  |  |  |
| Cefepime | Sensitive | 0 (0%) | 0 (0%) | 0 (0%) | 0.47 |
|  | Intermediate | 2 (100%) | 8 (100%) | 14 (93%) |  |
|  | Resistant | 0 (0%) | 0 (0%) | 1 (7%) |  |
|  |  |  |  |  |  |
| Aztreonam | Sensitive | 0 (0%) | 0 (0%) | 0 (0%) | 1.00 |
|  | Intermediate | 2 (100%) | 8 (100%) | 15 (100%) |  |
|  | Resistant | 0 (0%) | 0 (0%) | 0 (0%) |  |
|  |  |  |  |  |  |

(\*) P-value for comparison of periods 2 and 3 only

*Table 3: Ward B showers*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Antibiotic | Antibiotic susceptibility | Period 1  n (%) | Period 2  n (%) | Period 3  n (%) | P-value |
|  |  |  |  |  |  |
| Amikacin | Sensitive | 14 (100%) | 25 (100%) | 12 (92%) | 0.58 |
|  | Intermediate | 0 (0%) | 0 (0%) | 0 (0%) |  |
|  | Resistant | 0 (0%) | 1 (4%) | 1 (8%) |  |
|  |  |  |  |  |  |
| Tobramycin | Sensitive | 14 (100%) | 25 (96%) | 13 (100%) | 0.60 |
|  | Intermediate | 0 (0%) | 0 (0%) | 0 (0%) |  |
|  | Resistant | 0 (0%) | 1 (4%) | 0 (0%) |  |
|  |  |  |  |  |  |
| Piperacillin | Sensitive | 0 (0%) | 0 (0%) | 0 (0%) | 0.43 |
|  | Intermediate | 14 (100%) | 23 (88%) | 12 (92%) |  |
|  | Resistant | 0 (0%) | 3 (12%) | 1 (8%) |  |
|  |  |  |  |  |  |
| Piperacillin- | Sensitive | 0 (0%) | 0 (0%) | 0 (0%) | 0.57 |
| tazobactam | Intermediate | 14 (100%) | 24 (92%) | 12 (92%) |  |
|  | Resistant | 0 (0%) | 2 (8%) | 1 (8%) |  |
|  |  |  |  |  |  |
| Ticarcillin- | Sensitive | 0 (0%) | 0 (0%) | 0 (0%) | 0.60 |
| clavulanic acid | Intermediate | 13 (100%) | 21 (81%) | 11 (85%) |  |
|  | Resistant | 1 (7%) | 5 (19%) | 2 (15%) |  |
|  |  |  |  |  |  |
| Meropenem | Sensitive | 13 (93%) | 24 (192%) | 13 (100%) | 0.60 |
|  | Intermediate | 1 (7%) | 2 (8%) | 0 (0%) |  |
|  | Resistant | 0 (0%) | 0 (0%) | 0 (0%) |  |
|  |  |  |  |  |  |
| Imipenem | Sensitive | 0 (0%) | 0 (0%) | 0 (0%) | **0.03** |
|  | Intermediate | 7 (50%) | 23 (88%) | 9 (69%) |  |
|  | Resistant | 7 (50%) | 3 (12%) | 4 (31%) |  |
|  |  |  |  |  |  |
| Ciprofloxacin | Sensitive | 0 (0%) | 0 (0%) | 0 (0%) | 1.00 |
|  | Intermediate | 14 (100%) | 26 (100%) | 13 (100%) |  |
|  | Resistant | 0 (0%) | 1 (6%) | 0 (0%) |  |
|  |  |  |  |  |  |
| Ceftazidime | Sensitive | 0 (0%) | 0 (0%) | 0 (0%) | 0.35 |
|  | Intermediate | 14 (100%) | 24 (92%) | 13 (100%) |  |
|  | Resistant | 0 (0%) | 2 (8%) | 0 (0%) |  |
|  |  |  |  |  |  |
| Cefepime | Sensitive | 0 (0%) | 0 (0%) | 0 (0%) | 0.38 |
|  | Intermediate | 12 (86%) | 24 (92%) | 13 (100%) |  |
|  | Resistant | 2 (14%) | 2 (8%) | 0 (0%) |  |
|  |  |  |  |  |  |
| Aztreonam | Sensitive | 0 (0%) | 0 (0%) | 0 (0%) | 0.72 |
|  | Intermediate | 12 (100%) | 24 (92%) | 11 (85%) |  |
|  | Resistant | 2 (14%) | 2 (8%) | 2 (15%) |  |
|  |  |  |  |  |  |

*Table 4: Ward B drains*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Antibiotic | Antibiotic susceptibility | Period 1  n (%) | Period 2  n (%) | Period 3  n (%) | P-value |
|  |  |  |  |  |  |
| Amikacin | Sensitive | 6 (75%) | 10 (100%) | 7 (87%) | 0.27 |
|  | Intermediate | 0 (0%) | 0 (0%) | 0 (0%) |  |
|  | Resistant | 2 (25%) | 0 (0%) | 1 (13%) |  |
|  |  |  |  |  |  |
| Tobramycin | Sensitive | 8 (62%) | 8 (80%) | 8 (100%) | 0.17 |
|  | Intermediate | 0 (0%) | 0 (0%) | 0 (0%) |  |
|  | Resistant | 3 (38%) | 2 (20%) | 0 (0%) |  |
|  |  |  |  |  |  |
| Piperacillin | Sensitive | 0 (0%) | 0 (0%) | 0 (0%) | 1.00 |
|  | Intermediate | 8 (100%) | 10 (100%) | 8 (100%) |  |
|  | Resistant | 0 (0%) | 0 (0%) | 0 (0%) |  |
|  |  |  |  |  |  |
| Piperacillin- | Sensitive | 0 (0%) | 0 (0%) | 0 (0%) | 1.00 |
| tazobactam | Intermediate | 8 (100%) | 10 (100%) | 8 (100%) |  |
|  | Resistant | 0 (0%) | 0 (0%) | 0 (0%) |  |
|  |  |  |  |  |  |
| Ticarcillin- | Sensitive | 0 (0%) | 0 (0%) | 0 (0%) | 1.00 |
| clavulanic acid | Intermediate | 8 (100%) | 10 (100%) | 8 (100%) |  |
|  | Resistant | 0 (0%) | 0 (0%) | 0 (0%) |  |
|  |  |  |  |  |  |
| Meropenem | Sensitive | 8 (100%) | 9 (90%) | 8 (100%) | 0.45 |
|  | Intermediate | 0 (0%) | 0 (0%) | 0 (0%) |  |
|  | Resistant | 0 (0%) | 1 (10%) | 0 (0%) |  |
|  |  |  |  |  |  |
| Imipenem | Sensitive | 0 (0%) | 0 (0%) | 0 (0%) | 0.96 |
|  | Intermediate | 6 (75%) | 7 (70%) | 6 (75%) |  |
|  | Resistant | 2 (25%) | 3 (30%) | 2 (25%) |  |
|  |  |  |  |  |  |
| Ciprofloxacin | Sensitive | 0 (0%) | 0 (0%) | 0 (0%) | **0.03** |
|  | Intermediate | 5 (62%) | 10 (100%) | 8 (100%) |  |
|  | Resistant | 3 (38%) | 0 (0%) | 0 (0%) |  |
|  |  |  |  |  |  |
| Ceftazidime | Sensitive | 0 (0%) | 0 (0%) | 0 (0%) | 1.00 |
|  | Intermediate | 8 (100%) | 10 (100%) | 8 (100%) |  |
|  | Resistant | 0 (0%) | 0 (0%) | 0 (0%) |  |
|  |  |  |  |  |  |
| Cefepime | Sensitive | 0 (0%) | 0 (0%) | 0 (0%) | 0.96 |
|  | Intermediate | 6 (75%) | 7 (70%) | 6 (75%) |  |
|  | Resistant | 2 (25%) | 3 (30%) | 2 (25%) |  |
|  |  |  |  |  |  |
| Aztreonam | Sensitive | 0 (0%) | 0 (0%) | 0 (0%) | **0.004** |
|  | Intermediate | 2 (25%) | 8 (80%) | 8 (100%) |  |
|  | Resistant | 6 (75%) | 2 (20%) | 0 (0%) |  |
|  |  |  |  |  |  |