Influence of Ertapenem Administration on the Incidence of Carbapenem-Resistant Pseudomonas aeruginosa

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From March to September 2006, the consumption of ertapenem in Infection Service-IOT, in defined daily doses (DDD) was 12.6 DDD per 1,000 patients/day. To evaluate the influence of the consumption of that antimicrobial agent on the incidence of hospital-acquired infections relating to P. aeruginosa resistant to imipenem, we analyzed and compared the incidences of that bacterium during the period of seven months of administration of ertapenem and in the period of seven months immediately before (September 2005 to February 2006). Historically, at IOT, the susceptibility of hospital-acquired P. aeruginosa strains to imipenem was 63.5%. After the introduction of ertapenem, we observed 90% of susceptibility to imipenem. By analyzing the data through Fisher’s exact test, we found no statistically significant difference between the two periods. The results are shown in the Table 1.

Table 1. Comparison of susceptibility of P. aeruginosa strains before and after introduction of ertapenem

<table>
<thead>
<tr>
<th>Total strains isolated from P. aeruginosa</th>
<th>Strains of P. aeruginosa resistant to carbapenems (susceptibility)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Period using ertapenem</td>
<td>10</td>
<td>9 (90%)</td>
</tr>
<tr>
<td>Period before using ertapenem</td>
<td>11</td>
<td>7 (63.5%)</td>
</tr>
</tbody>
</table>

Received on 11 December 2007; revised 6 April 2008.
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The Brazilian Journal of Infectious Diseases 2008;12(2):105-106. © 2008 by The Brazilian Journal of Infectious Diseases and Contexto Publishing. All rights reserved.
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