Activity of ertapenem and tigecycline against recent isolates from community-acquired lower respiratory infections in the UK and Ireland

Objective
The BSAC Respiratory Resistance Surveillance Programme has monitored the prevalence of resistance in the agents of community-acquired lower respiratory infection in the UK and Ireland since 1999.

Ertapenem

- The BSAC Respiratory Resistance Surveillance Programme has monitored the prevalence of resistance in the agents of community-acquired lower respiratory infection in the UK and Ireland since 1999.
- Ertapenem and tigecycline were first tested in 2004-05, to assess the activity of these newer antimicrobial agents.

Methods
- 750 isolates of Streptococcus pneumoniae, 888 Haemophilus influenzae and 403 Moraxella catarrhalis were collected from 20 centres in the UK and Ireland between October 2004 and April 2005 and tested centrally by BSAC agar dilution methodology.

Results
- See table and charts.

Isolates, %

<table>
<thead>
<tr>
<th>Organism</th>
<th>MIC, mg/L</th>
</tr>
</thead>
<tbody>
<tr>
<td>S. pneumoniae</td>
<td>0.03</td>
</tr>
<tr>
<td>H. influenzae</td>
<td>0.03</td>
</tr>
<tr>
<td>M. catarrhalis</td>
<td>0.03</td>
</tr>
<tr>
<td>β-lactamase+</td>
<td>N/A</td>
</tr>
<tr>
<td>penicillin-R (I)</td>
<td>0 (7.3)</td>
</tr>
<tr>
<td>tetracycline-R</td>
<td>8.8</td>
</tr>
<tr>
<td>erythromycin-R (I)</td>
<td>14.3</td>
</tr>
<tr>
<td>ciprofloxacin-R (I)</td>
<td>3.7 (96.3)</td>
</tr>
</tbody>
</table>

Ertapenem

- Penicillin and ertapenem susceptibilities were closely associated in S. pneumoniae:
  - 6.9% of isolates showed intermediate susceptibility to both agents.

Tigecycline

- Tetracycline resistance and penicillin non-susceptibility did not affect MICs for tigecycline in S. pneumoniae. Most were between 0.06 and 0.25 mg/L and none above 1 mg/L.

Conclusions
- The prevalence of resistance among community-acquired lower respiratory S. pneumoniae, H. influenzae, and M. catarrhalis remains relatively low in the UK and Ireland.
- Ertapenem and tigecycline showed very good activity against most or all of these isolates.
- Ertapenem and penicillin susceptibility in S. pneumoniae were closely associated.

Acknowledgements

Organism ID and Susceptibility Testing: L. Williams, A. Colclough
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Collecting Laboratories: England: City Birmingham; Southmead Bristol, Addenbrooke’s Cambridge; St. James’s Leeds; Royal Leicester; University Liverpool; St. Bartholomew’s & Royal London; UCH London; Hope Manchester; Derriford Plymouth; General Southampton; Royal Sunderland, Ireland St. Vincent’s* & Beaumont Dublin; UCH Galway; *Ireland: Royal Hospitals* Belfast; Ulster Dundonald; Scotland: Royal Aberdeen; New Royal Edinburgh. Wales: UHW Cardiff; Wrexham Maelor. (** and ‡‡: each pair contributes one quota jointly.)

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