Antimicrobial Stewardship (AMS): an Infectious Diseases Perspective

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Antimicrobial Stewardship (AMS)

• Aim: optimising the use of antimicrobials
  – Right antibiotic
  – Right dose
  – Right formulation (IV/PO/TOP)
  – Right duration

• Minimising:
  – Adverse drug reactions
  – Selection pressure
  – Complications
Elements of AMS (1)

• Governance & Guidelines
  – Local Health District (AMS & Drug Committee)
  – eTG

• AMS Team
  – Infectious Diseases, Microbiology
  – Pharmacy, Infection Control

• Education
  – Meetings with Divisional Leads
  – Departmental Meeting attendance
  – Teaching sessions JMO’s
Elements of AMS (2)

- Restriction and pre-approval
  - Information technology

- Point-of-care interventions: teaching and feedback
  - ICU rounds 2x per week
  - Ward rounds 3x per week

- Laboratory
  - Selective reporting
  - Antibiograms
  - Therapeutic drug monitoring
## Urine Culture

### Organism

<table>
<thead>
<tr>
<th>Organism</th>
<th>No. Isolates</th>
<th>Routinely Reported</th>
<th>Susceptible</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Ampicillin</td>
<td>Cefotaxim</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cefoxitin</td>
<td>Cephalothin</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Trimethoprim/Sulfamethoxazole</td>
<td>Nitrofurantoin</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Norfloxacin</td>
<td>Gentamicin</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ciprofloxacin</td>
<td>Amikacin</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tobramycin</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>All Isolates</th>
<th>Total 2085</th>
<th>Isolates Tested</th>
<th>Susceptible</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acinetobacter baumannii</td>
<td>1</td>
<td>1 Isolates Tested</td>
<td>100%</td>
</tr>
<tr>
<td>Acinetobacter species</td>
<td>1</td>
<td>1 Isolates Tested</td>
<td>100%</td>
</tr>
<tr>
<td>Citrobacter freundii complex</td>
<td>18</td>
<td>18 Isolates Tested</td>
<td>89%</td>
</tr>
<tr>
<td>Citrobacter koseri</td>
<td>24</td>
<td>24 Isolates Tested</td>
<td>100%</td>
</tr>
<tr>
<td>Citrobacter species</td>
<td>6</td>
<td>6 Isolates Tested</td>
<td>100%</td>
</tr>
<tr>
<td>Enterobacter aerogenes</td>
<td>33</td>
<td>33 Isolates Tested</td>
<td>83%</td>
</tr>
<tr>
<td>Enterobacter cloacae complex</td>
<td>1</td>
<td>1 Isolates Tested</td>
<td>100%</td>
</tr>
<tr>
<td>Enterobacter cloacae complex</td>
<td>46</td>
<td>46 Isolates Tested</td>
<td>83%</td>
</tr>
</tbody>
</table>
Elements of AMS (3)

- Audit and feedback
  - 5x5 Audit
  - Surgical Prophylaxis Audit Tool (SPAT)

- Electronic Prescribing...
“Do or do not. There is no try”

Obtain approval for your restricted antibiotic.
Some things can go on too long

Chart a STOP date for antibiotics
AMS Philosophy

• Patient safety & quality of care
• Educator vs ‘Hall monitor’
• Improve antibiotic literacy
• Minimise additional work load
• Maximise cost savings