Antibiotic Susceptibilities of Bacterial Isolates at WCHOB: 2008

Robert C. Welliver, Sr., MD

Inpatient Floor and Emergency Department

MSSA and MRSA: 1994-2009

Staphylococcus Aureus Isolates: 2008

MRSA Susceptibilities

MSSA Susceptibilities
All *Staphylococcus aureus* are sensitive to linezolid and vancomycin.

Per cent of isolates

distinct cutoffs for sensitivity in CNS versus elsewhere.
Inpatient floor areas

Klebsiella Susceptibilities

Per cent of isolates

Inpatient and ER Summary

- MRSA account for the nearly 100% increase in *Staphylococcus aureus* infections
- 55% of recovered staph are MRSA
- Clindamycin is now an unreliable drug for staphylococcal infections (25% of MSSA resistant)
- TMP-SMX, tetracycline available for oral therapy
- Vancomycin and linezolid have 100% activity in

Inpatient and ER Summary II

- Pneumococci remain susceptible to high-dose ceftriaxone in sites other than CNS
- Vancomycin/ceftriaxone synergy in CNS infection
- CTX resistance has apparently increased at other body sites, but this may be semantic
- Clindamycin susceptibility is now 73%, affecting therapeutic decisions in lung infections

 PICU

PICU Gram-Positives

Per cent of isolates

PICU Gram-Negatives

Per cent of isolates
PICU Summary

- MRSA (n = 52) and MSSA (n = 74) essentially the same as in other sites
- 73% of MSSA sensitive to clindamycin
- Enterococci susceptible to amp/sulbactam, gentamicin synergy frequent
- E. coli, Proteus not problematic
- Pseudomonas sensitive to meropenem, amikacin

Nicu Gram-Positives in 2008

<table>
<thead>
<tr>
<th>Organism</th>
<th>Number of isolates</th>
</tr>
</thead>
<tbody>
<tr>
<td>MRSA</td>
<td>16</td>
</tr>
<tr>
<td>MSSA</td>
<td>56</td>
</tr>
<tr>
<td>Coagulase-negative staphylococi</td>
<td>101</td>
</tr>
<tr>
<td>Streptococcus agalactiae</td>
<td>2</td>
</tr>
<tr>
<td>Enterococcus species</td>
<td>22</td>
</tr>
</tbody>
</table>

NICU Gram-Positives

NICU Gram-Negatives in 2008

<table>
<thead>
<tr>
<th>Organism</th>
<th>Number of isolates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enterobacter cloacae</td>
<td>49</td>
</tr>
<tr>
<td>Escherechia coli</td>
<td>31</td>
</tr>
<tr>
<td>Klebsiella oxytoca</td>
<td>25</td>
</tr>
<tr>
<td>Klebsiella pneumoniae</td>
<td>21</td>
</tr>
<tr>
<td>Pseudomonas aeruginosa</td>
<td>38</td>
</tr>
</tbody>
</table>

NICU Gram-Negatives
NICU Summary

• MRSA are comparatively smaller per cent of staph isolates, constitute 22% of staph aureus
• Enterococci demonstrate ampicillin susceptibility, gentamicin synergy
• CONS essentially require vancomycin
• Group B streptococci rarely tested

NICU Summary II

• Aminoglycosides cover GNR in sepsis/meningitis
• Several species exceed E coli in frequency
• Amp/gent still appropriate for newborns
• Amikacin or meropenem to be considered for infections acquired later in newborn period