ARE YOU HIP TO NEW INFO? A REVIEW OF RELEVANT ARTICLES FOR ANTIMICROBIAL STEWARDSHIP CONSIDERATION (ABRIDGED).

Tom Richardson, PharmD, BCPS AQ-ID
St. Peter's Health
Helena, MT

DISCLOSURES
➢ I have no conflicts of interest to disclose.

OBJECTIVES
➢ Discuss key concepts from presented literature that may help augment education and/or best practices as it relates to antimicrobial stewardship.

WHAT TO DO WITH 20 MINUTES?
➢ Tom’s typical presentation break down....
  ➢ 5 minutes: Bad dad jokes
  ➢ 5 minutes: Pharmacy or topic related memes
  ➢ 5 minutes: Poking fun at audience members
  ➢ 5 minutes: Digression of correlating relevant topics to some irrelevant pop culture theme
  ➢ Total 20 minutes of entertainment value
  ➢ 20 minute presentation= all the fun is cut out

ARTICLE SELECTION CRITERIA
➢ Topics/publications were selected based on:
  ➢ Date of publication inclusion had to be within the last year
  ➢ Assessment of potential impact to patient care and/or education value to learners
  ➢ Any publication was considered regardless of methodology or article type (ie: position paper vs. scientific research)
  ➢ Please note the very biased methodology applied to this process

Static vs. Cidal? Let’s end the debate...
STATIC VS. CIDAL: DOES IT MATTER?!
➢ Wald-Dickler et al. “Busting the Myth of “Static vs. Cidal”: A Systemic Literature Review
➢ Design: Systemic literature review of RCT comparing bacteriostatic and bactericidal agents.
➢ Results: A total of 56 trials were included. Key disease states evaluated in treatment outcomes included pneumonia and SSTI.
➢ Conclusion: Bactericidal antibiotics do not confer an advantage over bacteriostatic antibiotics in the setting of clinical outcomes.

Why is this important?
➢ Challenges the traditional thought that bactericidal antibiotics should be preferred to treat serious or high inoculum infections
➢ Treating multi-drug resistant organism relating infections may require consideration of using static drugs
➢ I.e. VRE bacteremia
➢ Educating providers, residents, students on this evolving school of thought is important for future patient care consideration

NASAL MRSA PCR AND PNEUMONIA
➢ Work with lab to assess your PCR capabilities
➢ Bring the data about the utility of a negative MRSA PCR to the medical staff and get their buy in up front
➢ Try to hardwire nasal PCR screening with orders for anti-MRSA therapy
➢ Reflex nasal swab orders for PCR with orders for vancomycin or linezolid
➢ Consider a protocol to allow pharmacists to order nasal PCR testing
➢ Incorporate nasal PCR testing results as part of your prospective audit and feedback review of antibiotics

Clostridium difficile IDSA Guideline Updates
C. DIFF IDSA GUIDELINE UPDATE

➢ Recommendations to assess C. diff testing practices
➢ Changes to treatment recommendations for first line, second line, and recurrent infection
➢ Recommendations for the role of antimicrobial stewardship programs
➢ Minimize frequency/duration of high risk therapy
➢ Consider restricting fluoroquinolones, clindamycin, ceph

TESTING OPTIONS

➢ Stool toxin test as part of multi-step algorithm (GDH + Toxin, GDH + Toxin arbitrated by NAAT, NAAT + Toxin) rather than NAAT alone when there are no preagreed institutional criteria for patient stool submission.
➢ NAAT alone or multistep algorithm for testing (GDH + Toxin, GDH + Toxin arbitrated by NAAT, NAAT + Toxin) rather than toxin test alone when there are preagreed institutional criteria for patient stool submission.

CLOSTRIDIUM DIFFICILE: IDSA 2017 GUIDELINE UPDATE

<table>
<thead>
<tr>
<th>2010 Guidelines</th>
<th>2017 Guidelines</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st infection</td>
<td>1st infection</td>
</tr>
<tr>
<td>Mild to moderate: Metronidazole 500 mg TID x 10-14 days OR Vancomycin 125 mg QID x 10-14 days Severe: Vancomycin 500 mg QID, Vancomycin rectal enema 500 mg per 100 mL NS QID, and Metronidazole 500 mg IV Q8H (severe complicated)</td>
<td>All initial infections: Vancomycin 125 mg QID x 10-14 days OR Fidaxomicin 200 mg BID x 10 days Note: Metronidazole use is not recommended unless above options are unavailable: 500 mg TID x 10 days (mild to moderate only) Fulminant CDI: Vancomycin 500 mg QID, Vancomycin rectal enema 500 mg per 100 mL NS QID, and Metronidazole 500 mg QID</td>
</tr>
</tbody>
</table>

OUTPATIENT ANTIBIOTIC STEWARDSHIP

<table>
<thead>
<tr>
<th>Reference</th>
<th>Methodology</th>
<th>Important Highlights</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dobson et al. “Outpatient antibiotic stewardship: Interventions and opportunities.” APHA. 2017.</td>
<td>Perspective article summarizing key concepts with regulatory considerations and practical applications for outpatient antibiotic stewardship programs</td>
<td>Both articles combine evidence needed to educate and plan for outpatient antibiotic stewardship activities</td>
</tr>
<tr>
<td>Klepser et al. “A call to action for outpatient antibiotic stewardship.” APHA. 2017.</td>
<td>Perspective article outlining strategic steps for implementing outpatient antibiotic stewardship programs</td>
<td>Provides practical advice for building an outpatient AMS team</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Outlines initiatives that AMS programs may target</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Provides suggestions for possible metrics</td>
</tr>
</tbody>
</table>
OUTPATIENT ANTIBIOTIC STEWARDSHIP

➢ Identify your outpatient antibiotic stewardship team
➢ Target high volume prescribing disease states with your initiatives
➢ Develop quality metrics that you will follow with pre/post implementation
➢ Percent of visits with antibiotic prescription
➢ Total antibiotic prescriptions
➢ Consider a multi pronged approach to implementation
➢ Heavy dose of education to the medical and nursing staff
➢ Developing electronic or paper pathways to help drive practice

OUTPATIENT ANTIBIOMICROBIAL STEWARDSHIP AT SPH

➢ Team: Am care pharmacist, primary care provider, quality, informatics, nursing, lab
➢ FY 18: Upper respiratory tract infections
➢ Developed targeted education
➢ Developed clinical pathways
➢ Developed viral prescription
➢ Key interventions:
  ➢ Promotion of “watchful waiting” using viral prescription
  ➢ Developed clinical pathways for viral/bacterial diagnosis with treatment recommendations

REFERENCES & RESOURCES

5. McDonald et al. “Clinical practice guidelines for Clostridium difficile infection in adults and children: 2017 update by the Infectious Disease Society of America (IDSA) and Society for Healthcare Epidemiology of America (SHEA).” CID. 2018.

QUESTIONS?

Special thanks to Heidi Simons, Taylor Sandvick, Amy Emmert, Carey Phelan, and the SPH Antimicrobial Stewardship Team!

Contact info: trichardson@sphealth.org

So I restricted their soul.