Secondary Prophylaxis for Clostridium difficile Infection: A Physician Practice Assessment

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identify medicine patients at high risk of CDI on admission. Further research is needed to determine whether this tool can reduce primary CDI incidence and healthcare costs.

Table 1. Five-Point CDI Clinical Risk Tool and Predicted Risk.

<table>
<thead>
<tr>
<th>Age group</th>
<th>Total Points</th>
<th>Predicted CDI risk (0-5)</th>
<th>True Positive (%)</th>
<th>False Positive (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Young (&lt;40)</td>
<td>1</td>
<td>0.0028</td>
<td>100.00</td>
<td>100.00</td>
</tr>
<tr>
<td>≥ 70 years</td>
<td>5</td>
<td>0.0109</td>
<td>100.00</td>
<td>100.00</td>
</tr>
<tr>
<td>Modified Horne’s Index</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low (0-1)</td>
<td>1</td>
<td>0.0033</td>
<td>91.7</td>
<td>57.9</td>
</tr>
<tr>
<td>Moderate (2-3)</td>
<td>2</td>
<td>0.0044</td>
<td>75.0</td>
<td>31.8</td>
</tr>
<tr>
<td>High (4)</td>
<td>3</td>
<td>0.0066</td>
<td>45.0</td>
<td>31.8</td>
</tr>
<tr>
<td>Antibiotic within previous 3 months</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None (0)</td>
<td>0</td>
<td>0.4180</td>
<td>5.7</td>
<td>0.6</td>
</tr>
<tr>
<td>Use (1)</td>
<td>1</td>
<td>0.2066</td>
<td>36.7</td>
<td>5.7</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 1. Receiver operating characteristic (ROC) curve for CDI risk prediction model.

Figure 2. CDI risk prediction model calibration plot. C. difficile infection risk prediction model calibration plot showing agreement between observed and predicted risks. Dashed line shows perfect agreement; lines above the dashed line indicate the predicted risks are lower than the actual risk.

Disclosures. All authors: No reported disclosures.

494. Use of a Clinical Prediction Tool to Predict Clostridium difficile Infection
Martin Hawkins, MPH; Michael Baumgartner, BS Neurobiology; Danielle VanBeckum, BS, MS; Julia Buck, BS, BA and Crystal Holley, BS, 1 Michigan State University College of Human Medicine, East Lansing, Michigan

Session: 59. Healthcare Epidemiology: Updates in C. difficile
Thursday, October 4, 2018: 12:30 PM

Background. C. difficile is a pathogen that may be a component of normal microbiota. In 2011, there were an estimated 453,000 cases of CDI in the United States and 29,300 deaths. Diagnosis of hospital-onset CDI is often accomplished through testing such as nucleic acid amplification testing (NAAT) for C. difficile toxins, which carries a risk of false-positive results. In 1996, Katz et al. created a screen for CDI that was positive if the patient had significant diarrhea and either abdominal pain or prior antibiotic usage. Today, we believe that this tool is worth revisiting with increased incidence of CDI and improved testing methods. Our aim is to determine the current usefulness of the Katz et al. 1996 clinical decision tool for CDI.

Methods. We conducted a retrospective cross-sectional chart review at a Midwestern teaching hospital. All patients tested for CDI between June 1, 2016 and May 31, 2017 were initially eligible. Participants were excluded from data collection on the basis of missing information, a previous positive CDI test in the last 8 weeks or age <18 years. Charts were reviewed for age, sex, diarrhea, abdominal pain, antibiotic use, prior positive testing for CDI, and length of hospitalization. Data were analyzed using SAS Software.

Results. Of the initial 432 charts analyzed, 202 (46.8%) had no documented amount of diarrhea and 16 more were missing other data points, leaving 214 of 432 (49.5%) charts that included all data to be used for analysis. Of these 18 of 214 (8.4%) were positive results. The Katz screen was positive in 85 of 214 (40.0%) charts.

Conclusion. Katz et al. found a sensitivity, specificity, positive predictive value, and negative predictive value, respectively, of 61, 62, 13, and 95.

Disclosures. All authors: No reported disclosures.

495. Predictors of C. difficile Infection and Impact of Primary Prophylaxis Among Asymptomatic C. difficile Colonized Patients: A Cross-Sectional Study
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Thursday, October 4, 2018: 12:30 PM

Background. Patients who are colonized with C. difficile are at risk of developing C. difficile infections (CDI), but factors associated with disease onset are poorly understood. The objectives of this study were to identify predictors of hospital-onset CDI (HO-CDI) among asymptomatic C. difficile colonized patients and explore the potential benefit of primary prophylaxis to prevent CDI.

Methods. We performed a retrospective cross-sectional study of C. difficile colonized patients admitted to a tertiary academic institution in Quebec City between November 2013 and January 2017. Colonization status was determined upon hospital admission through a systematic screening program by detecting the TcdB gene by PCR on a rectal swab. Primary prophylaxis was defined as the preventive use of ≥1 dose of oral vancomycin or metronidazole in a patient without diarrhea. The choice and dosing of prophylaxis were left to the discretion of the treating physician. Univariate analysis, whereas the use of laxatives was associated with a lower risk of CDI (aOR, 0.36; P = 0.01).

Conclusions. These risk factors could help prevent CDI should be further investigated.

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496. Secondary Prophylaxis for Clostridium difficile Infection: A Physician Practice Assessment

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Background. Recurrent Clostridium difficile infection (CDI) is associated with significant morbidity, mortality and healthcare related costs. Up to 30% of CDI cases recur, resulting in 83,000 cases of recurrent CDI per year. Although agents for primary and secondary prophylaxis for CDI including the use of probiotics, antibiotics, fecal microbiota transplantations, and newer therapies such as bezlotoxumab have been reported, there is no consensus guidelines regarding their use. The purpose of this study was to assess physician practices regarding secondary prophylaxis for CDI.

Methods. This cross-sectional study using Qualtrics electronic survey (24 questions) assessed physician practice preferences. The survey was distributed through institutional emails and through the Infectious Disease Society of America "IDea Exchange" forum. Responses were collected and analyzed using descriptive statistics.

Results. A total of 246 surveys were completed. Physicians were surveyed from greater than 100 locations (see Figure 1). Most (229, 93%) of the physicians practiced in an inpatient setting. Respondent specialties were primarily infectious diseases (138, 56%) followed by internal medicine (72, 29%). Most physicians (173, 71%) use secondary prophylaxis for CDI prevention (see Figure 2). Vancomycin (121, 70%) and probiotics (114, 66%) were most commonly used for CDI secondary prophylaxis, (see Figure 3). Of 164 physicians who used secondary prophylaxis half of them (89, 54.2%), used prophylaxis only for patients with a history of recurrent CDI receiving antibiotics and about a third, (49, 29.9%) utilized it for patients with a history of recurrent CDI. Of 164 physicians who used secondary prophylaxis half (89, 54.2%) use secondary prophylaxis for CDI prevention (see Figure 2). Vancomycin (121, 70%) and probiotics (114, 66%) were most commonly used for CDI secondary prophylaxis, (see Figure 3). Of 164 physicians who used secondary prophylaxis half of them (89, 54.2%), used prophylaxis only for patients with a history of recurrent CDI receiving antibiotics and about a third, (49, 29.9%) utilized it for patients with a history of recurrent CDI. Of 164 physicians who used secondary prophylaxis half (89, 54.2%) use secondary prophylaxis for CDI prevention (see Figure 2). Vancomycin (121, 70%) and probiotics (114, 66%) were most commonly used for CDI secondary prophylaxis, (see Figure 3). Of 164 physicians who used secondary prophylaxis half of them (89, 54.2%), used prophylaxis only for patients with a history of recurrent CDI receiving antibiotics and about a third, (49, 29.9%) utilized it for patients with a history of recurrent CDI. Of 164 physicians who used secondary prophylaxis half (89, 54.2%) use secondary prophylaxis for CDI prevention (see Figure 2). Vancomycin (121, 70%) and probiotics (114, 66%) were most commonly used for CDI secondary prophylaxis, (see Figure 3). Of 164 physicians who used secondary prophylaxis half of them (89, 54.2%), used prophylaxis only for patients with a history of recurrent CDI receiving antibiotics and about a third, (49, 29.9%) utilized it for patients with a history of recurrent CDI. Of 164 physicians who used secondary prophylaxis half (89, 54.2%) use secondary prophylaxis for CDI prevention (see Figure 2). Vancomycin (121, 70%) and probiotics (114, 66%) were most commonly used for CDI secondary prophylaxis, (see Figure 3). Of 164 physicians who used secondary prophylaxis half of them (89, 54.2%), used prophylaxis only for patients with a history of recurrent CDI receiving antibiotics and about a third, (49, 29.9%) utilized it for patients with a history of recurrent CDI.

Conclusion. The majority of the physicians who responded to this survey use secondary prophylaxis to prevent recurrent CDI, hence future CDI guidelines need to address the role of secondary prophylaxis in clinical practice.