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POSTER ABSTRACTS

293. Using MRSA Screening Tests to Predict Methicillin Resistance in *Staphylococcus aureus* Bacteremia

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Background. Methicillin-resistant *Staphylococcus aureus* (MRSA) is a clinically significant pathogen for which empiric therapy is often given. However, vancomycin overuse can be associated with significant harm such as nephrotoxicity and increase in healthcare costs. We hypothesized that MRSA screening results could predict methicillin resistance in *S. aureus* bacteremia prior to final antibiogram result, and curtail inappropriate vancomycin use.

Methods. We reviewed *S. aureus* bloodstream infections over a 5-year period at 2 adult tertiary care hospitals at the McGill University Health Center, and determined if MRSA bacteremia could be predicted based on screening swab results. We evaluated MRSA colonization in 3 ways: known MRSA carrier within 30 days of bacteremia (30-day criteria), known MRSA carrier at 30 days or more remotely (all-time criteria), and all patients at all time including those untested for MRSA colonization (inclusive criteria).

Results. A negative screening swab within 30 days was done in 235 patients, and yielded negative predictive values of 90% and 95% if the prevalence of MRSA in *Staphylococcus aureus* bacteremia was less than 39.7% and 23.8% respectively. In such centers, empiric vancomycin could be deferred in most stable patients. Graphs of negative predictive values of screening test and their 95% confidence intervals as a function of MRSA bacteremia prevalence are included below. Results for the inclusive criteria were similar. Conversely, in patients with prior MRSA, the positive predictive value was above 50% even at low prevalence; hence, empiric vancomycin therapy would be appropriate.

Conclusion. Known MRSA screening test results can help in avoiding unnecessary empiric vancomycin treatment and its complications in settings with low-moderate prevalence of MRSA bacteremia.

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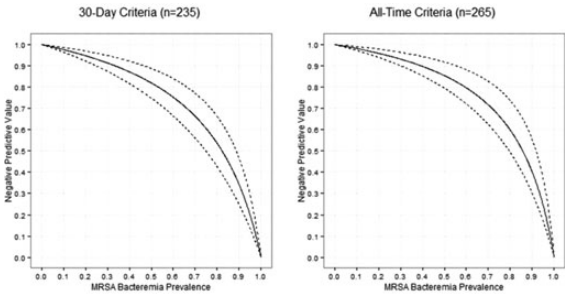

Disclosures. **All authors:** No reported disclosures.

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