Evaluation of Intervention Implementation to Increase MRSA Nasal Swab PCR Tests in Pediatric Patients: An Interim Analysis

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Background

Recently, there has been an increase in Staphylococcus aureus infections, especially Methicillin-Resistant Staphylococcus aureus (MRSA), including pneumonia. This has thus resulted in an increase in anti-MRSA antibiotic use. The current IDSA guidelines for Community-acquired Pneumonia suggest the use of MRSA Nasal PCRs for adults with an increased risk of MRSA. While these recommendations do not apply to pediatric populations, recent studies have shown similar efficacy to adult patients, supporting their use to aid in anti-MRSA therapy de-escalation.

Study Design

This retrospective, single-center study was conducted as an interim analysis and included 55 patients with 48 patients in the pre-intervention group and 7 patients in the post-intervention group. Patients were included between January 1, 2024 to December 31, 2024 and between August 1, 2025 to November 30, 2025 if they were 18 years or younger, treated at Cardinal Glennon Children's Hospital, and received a "Culture MRSA" or "MRSA DNA by PCR" test. The primary outcome was to determine the number of MRSA Nasal Swab PCR tests conducted from August 1, 2025 to December 31, 2025 after the implementation of the educational intervention as compared to the amount conducted from January 1, 2024 to December 31, 2024.

Results

A MRSA Nasal Swab PCR test was conducted in 2 of 48 (4.2%) patients from January 1, 2024 to December 31, 2024 in the emergency department as compared to 2 of 7 (28.6%) patients from August 1, 2025 to November 30, 2025. The most common antibiotics between both groups included Vancomycin and Clindamycin with 79.2% (38 of 48) of pre-intervention patients, and 57.1% (4 of 7) of post-intervention patients had at least one risk factor present.

Conclusion

At three months, the educational intervention was found to not have an increase in the amount of MRSA Nasal Swab PCR tests conducted in pediatric patients in the emergency department. However, further data analysis may be required to determine the efficacy of the educational intervention.