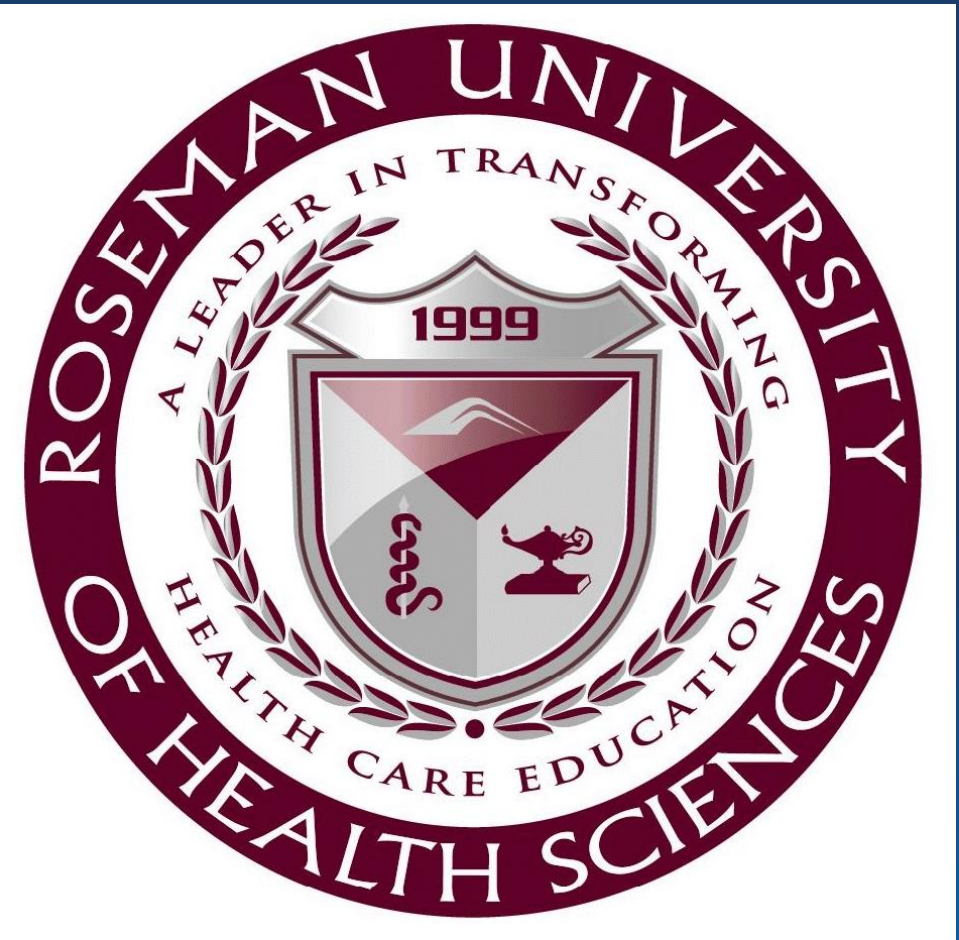


Outcomes of vancomycin minimum inhibitory concentration in methicillin-resistant coagulase-negative staphylococcal bacteremia

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BACKGROUND

- Worse outcomes have been observed in methicillin-resistant *Staphylococcus aureus* with vancomycin minimum inhibitory concentration (MIC) ≥ 2
- Few studies have been published about this relationship in methicillin-resistant coagulase-negative staphylococci (CoNS), which have yielded mixed results^{1,2}
- Rising antimicrobial resistance and increasing prevalence of CoNS in the nosocomial setting make it imperative to investigate this clinical question³
- The objective of this study is to examine vancomycin effectiveness and patient outcomes in methicillin-resistant CoNS bacteremia

STUDY OBJECTIVES

Primary Outcome	<ul style="list-style-type: none"> Time to first negative blood culture from collection of index cultures
Secondary Outcomes	<ul style="list-style-type: none"> Change in therapy due to clinical deterioration Hospital length of stay Recurrent bacteremia within 30 days of the end of definitive therapy 30-day all-cause mortality
Safety Outcomes	<ul style="list-style-type: none"> Acute kidney injury Vancomycin-induced hypersensitivity

METHODS

- Multicenter, retrospective, observational study
- Data will be extracted from the electronic medical records of patients admitted to a Valley Health System hospital (n=6) between January 2011 and December 2020
- CoNS isolates will be compared on the following basis:
 - Vancomycin MIC ≤ 1
 - Vancomycin MIC > 1

Inclusion Criteria	Exclusion Criteria
<ul style="list-style-type: none"> ≥ 18 years of age Two blood cultures positive for methicillin-resistant CoNS susceptible to vancomycin Have repeat blood cultures within 48 hours of positive index cultures Received ≥ 48 hours of vancomycin therapy 	<ul style="list-style-type: none"> Infective endocarditis or infected cardiac devices Concomitant acute infections due to other organisms Polymicrobial bacteremia Survived < 24 hours after index cultures obtained

- The following data will be collected:
 - Demographic variables
 - Admission/discharge dates
 - Level of care at index cultures
 - Pitt bacteremia score
 - Comorbidities
 - Microbiologic culture data
 - MIC breakpoints
 - Isolate resistance to other antibiotics
 - Duration of therapy
 - Percentage of vancomycin levels in therapeutic range
 - Other active therapies administered
 - Source of infection
 - Attainment of source control

DATA ANALYSIS

- Descriptive statistics will be performed to describe any differences in patients with CoNS isolates exhibiting vancomycin MIC ≤ 1 versus MIC > 1
- Inferential statistics that will be utilized: chi-square test for nominal data; Mann-Whitney U test for non-parametric data; student's t-test for parametric data
- Research results will provide outcomes data on patients with methicillin-resistant CoNS bacteremia, particularly for isolates demonstrating vancomycin MIC ≥ 2

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DISCLOSURE

The authors of this presentation have nothing to disclose concerning possible financial or personal relationships with commercial entities that may have a direct or indirect interest in the subject matter of this presentation.