

age of patients with NS was 3.75 days (0 - 22 days), with a slight male predominance (55%, $p < 0.001$). Peaks were observed from May to August ($p = 0.02$). Early NS cases (NS in patients aged less than 7 days) were most prevalent (86%, $p < 0.001$). Specimen culture and antimicrobial susceptibility testing was less frequent (7%) than complete blood count usage (65%). Findings regarding blood count included leukopenia (3%), thrombocytopenia (30%). A positive CRP and acute renal failure were noted in 76% and 21.7% of cases, respectively. The average hospital stay was 7.3 days. With regards to treatment, 73% of patients received a 2-drug antimicrobial therapy (ampicillin-gentamycin) and 22% received a 3-drug antimicrobial therapy (ampicillin-gentamycin-cefotaxime). Of all newborns hospitalized for NS, 49% received empirical antibiotic therapy within 3 hours of admission. **Conclusions:** This research highlights NS as a public health emergency in Haiti. The study advocates for improved access to culture and antibiotic susceptibility testing and emphasizes the impact of timely antibiotic administration. The findings of this study serve as a baseline for informing policymakers and medical practitioners dedicated to improving existing conditions of neonates in Haiti. Suggested targeted interventions include preventive measures during prenatal visits, strengthening laboratory capacities, improving infection prevention and control measures, and developing antimicrobial stewardship programs.

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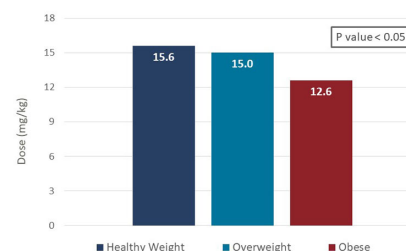
Subject Category: Pharmacokinetic

Optimal Weight-Based Dosing of Vancomycin to Achieve an Area Under the Curve of 400 to 600 Stratified by Body Mass Index

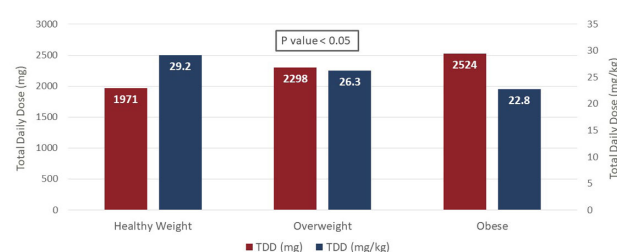
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Background: In 2020, the American Society of Health System Pharmacist (ASHP) and Infectious Diseases Society of America (IDSA) published a consensus guideline for vancomycin management, recommending area under the curve (AUC) as the preferred monitoring strategy. These guidelines recommend doses of 15-20 mg/kg every 8 to 12 hours for most patients with normal renal function. However, in extreme body weights, standard dosing may deviate to provide a therapeutic AUC. The primary objective of this pharmacokinetic study is to evaluate the optimal vancomycin weight-based dosing strategy that achieves a therapeutic AUC of 400-600 stratified by body mass index (BMI). The secondary objective is to evaluate the incidence of acute kidney injury (AKI) based on BMI. **Methods:** Patients were identified from two sites within the Department of Veterans Affairs who received vancomycin for at least 48 hours and had at least one steady-state level from January 2015 through July 2022. Regimens with a frequency of ≤ 8 hours or patients with baseline creatine clearance of < 50 ml/min were excluded. Patients were categorized based on the Center for Disease Control BMI groups: healthy weight, overweight, or obese. The online vancomycin calculator, VancoPK®, was utilized to calculate AUC. Renal function at baseline and during vancomycin therapy was collected. Descriptive statistics were used for data analysis. Continuous outcomes were summarized using mean and standard deviation. The primary and secondary endpoints were analyzed using the analysis of variance and Fisher's exact tests, respectively. Statistical significance was established at a p -value of < 0.05 . **Results:** A total of 347 unique vancomycin regimens were included: 120 in the healthy weight group, 101 in the overweight group, and 126 in the obese group. The average total daily doses that achieved a therapeutic AUC were 1971mg (15.6mg/kg/dose), 2298mg (15mg/kg/dose), and 2524mg (12.6mg/kg/dose) for the healthy weight, overweight, and obese groups, respectively. There was a statistically significant difference among these groups. AKI occurred in 10/254 (3.9%) unique patients: 2/89 (2.2%) in the healthy weight group, 3/71 (4.2%) in the overweight group, and 5/94 (5.3%) in the obese group. This did not reach statistical significance.

Primary Outcome – Therapeutic AUC mg/kg/dose



Primary Outcome – Therapeutic AUC Total Daily Dose (TDD)



Conclusions: Vancomycin dosing regimens largely followed guideline recommendations. However, the average vancomycin mg/kg/dose that achieved a therapeutic AUC decreased as BMI increased, which was a statistically significant trend. While further research is needed to draw clinically impactful conclusions, these findings suggest that a lower mg/kg vancomycin dose in obesity may be needed to achieve therapeutic targets.

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Subject Category: Public Health

Trends of Early Onset Group B Streptococcus infections and Observed Racial and Geographic Disparities Associated with GBS Infections in Tennessee, 2005-2021

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Background: Group B Streptococcus (GBS) is one of the most common causes of bacterial sepsis in newborns. In 2002, the Center for Disease Control and Prevention (CDC) recommended universal screening of all pregnant women for GBS colonization and administering intrapartum prophylaxis to colonized pregnant women to prevent GBS infection in newborns. To identify racial disparities in GBS infections in Tennessee, we compared the incidence of early-onset GBS infection among Black and White infants from 2005-2021. **Methods:** GBS infections identified from normally sterile sites are reportable in Tennessee. We analyzed GBS data reported to surveillance systems from 2005 to 2021. We linked the surveillance data with the population data to calculate incidence rates. We excluded cases with unknown race status (9%) and other races (0.2%) as we do not have denominator data to calculate the incidence rate. Database linkage and data analyses were performed in SAS V.9.4. **Results:** A total of 399 early-onset GBS cases were reported from 2005-2021; 150 (37.59%) were Black, 212 (53.13%) were White, and 36 (9.02%) were of unknown race, and one (0.20%) reported as Other for race. While the incidence rates of early-onset GBS for all races declined from