

**TITLE:** SUSCEPTIBILITY PROFILE OF *STAPHYLOCOCCUS* RECOVERED FROM PATIENTS UNDER VANCOMICIN THERAPY IN A UNIVERSITY HOSPITAL IN THE CITY OF MANAUS

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**ABSTRACT:** Vancomycin is an important antibiotic used in the treatment of Gram-positive infections, mainly caused by *Staphylococcus sp.* Despite its excellent activity against *S. aureus*, some studies have shown therapeutic failures and relapses of bloodstream infections caused by isolates with a minimum inhibitory concentration (MIC) of 1.5 µg/mL. Given the above, the aim of this study was to determine the susceptibility profile of *Staphylococcus sp* recovered from blood cultures of in-patients under vancomycin therapy. Therefore, blood cultures were performed using the BACTEC BD 9050 automated system from the Clinical Analysis Laboratory of the Hospital Universitário Getúlio Vargas. Later, the identification of the obtained isolates was performed by classical phenotypic tests, including the tube coagulase test. The vancomycin MIC was determined by the broth microdilution technique, performed and interpreted according to the standards published in the CLSI document M100-ED30. All isolates were assayed in triplicate. This work was approved by the Research Ethics Committee of the Universidade Federal do Amazonas under the CAAE 25424919.3.0000.5020. From January to October 2020, 50 blood cultures were performed from patients under vancomycin therapy. Isolates of the genus *Staphylococcus* were recovered in 24.0% of samples. Of these isolates, half were identified as *S. aureus* and the others were identified as coagulase negative *Staphylococcus*. Among the *S. aureus* isolates, half (50.0%) had MIC ≤ 2µg/mL, 33.3% had MIC = 4µg/mL and 1 isolate (16.7%) had MIC ≥ 16µg/mL. All coagulase-negative *Staphylococcus* isolates were sensitive to vancomycin (MIC ≤ 2µg/mL). Although few isolates were obtained, it is noteworthy that half of the *S. aureus* isolates had MIC categorized as intermediate or resistant. Therefore, this finding motivates the monitoring of this situation at the study site.

**KEYWORDS:** vancomycin, *Staphylococcus*, blood culture, susceptibility profile

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