

TITLE: ISOLATED MICROORGANISMS FROM ABYOTIC SURFACES OF THE ADULT ICU FROM A HOSPITAL IN RONDÔNIA

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ABSTRACT:

The Intensive Care Unit is where the essential resources for maintenance of the patients vital functions are concentrated. These units have been the epicenter of bacterial resistance to antimicrobials. This research aimed to identify isolated microorganisms on abiotic surfaces of the intensive care unit of a hospital in the State of Rondônia. There was a total of 31 samples collected from the following places: 16 bed racks, 8 bed controls, 4 infusion pumps, 1 bathroom sink faucet, 1 door handle from the inside of the bathroom and 1 bedside table handle. The samples were collected with a sterile swab soaked in a sterile physiological solution and incubated for 24 hours in Brain Heart Infusion (BHI) culture medium. After 24 hours the samples were sown in Blood Agar (AS) and MacConkey Agar (MC) with a sterile bacteriological loop of one microliter and incubated for 24 and 48 hours in an aerobic bacteriological incubator. The isolated colonies were identified by the Gram stain test method and directed to biochemical tests corresponding to each genus and species. Each identified microorganism was submitted to an antimicrobial sensitivity test (TSA) based on the Kirby-Bauer technique, with turbidity of 0.5 on the McFarland turbidity scale, according to the standards following the document M100-S24 of the Clinical and Laboratory Standards Institute (CLSI). The single-disc method for antibiotic susceptibility was used to identify resistance phenotypes. There was identified 54 (100%) bacterial strains, being 57.40% of *S. aureus*, 5.55% of *Serratia marcescens*, 5.55% of *Streptococcus pyogenes*, 1.85% of *Enterococcus* sp., 12.96% of Coagulase-negative *Staphylococcus*, 11.11% of Gram-positive Bacilli and 5.55% of the Group D non-enterococcus *Streptococcus*. Among the resistance phenotypes 90.32% were of MRSA (methicillin-resistant of *Staphylococcus aureus*), 16.12% of VRSA (vancomycin-resistant of *Staphylococcus aureus*), 50% of SCNRV (vancomycin-resistant of Coagulase-negative *Staphylococcus*), 100% of VRE (vancomycin-resistant of *Enterococcus*) and 50% of MSBLS (Macrolides, Lincoamides and Streptogramin B). This study presents data that corroborates with the scientific literature, the inanimate surfaces are colonized by important pathogenic bacteria that have high resistance to antibiotics and can cause infections, especially in an Intensive Care Unit.

Keywords: Antimicrobial resistance, abiotic surfaces, hospital infection, Intensive Care Unit.