**EFFECTS OF ANTIMICROBIAL PHOTODYNAMIC THERAPY (aPDT) IN THE NASAL DECOLONIZATION OF DIALYTIC CHRONIC RENAL PATIENTS, STAPHYLOCOCCUS AUREUS CARRIERS: CONTROLLED BLIND RANDOMIZED CLINICAL STUDY**

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**Abstract:**

Infections are the leading cause of morbidity and mortality among patients with chronic kidney disease (CKD) on dialysis therapy. *Staphylococcus aureus* is a major agent and previous nasal colonization represents an independent risk factor for infection. The nasal decolonization strategy reduces the infection rate in this population. The gold standard treatment is topical mupirocin, but there are reports of increasing bacterial resistance. Antimicrobial photodynamic therapy (aPDT) is a promising approach due to its potential bactericidal effect and low tendency to induce resistance. This controlled randomized, blinded, three-months follow-up clinical trial aims to compare the use of aPDT (≈ 660nm, 400mW/cm2, 0.01% methylene blue) with mupirocin therapy in nasal decolonization of among patients with CKD on dialysis therapy, through semi-quantitative microbiological evaluation before and after intervention and recolonization time. Two groups G1- aPDT decolonization (n = 17) and G2- mupirocin treatment (n = 17) will be formed. Secretions from the anterior nasal cavities will be collected - at times T0 (before intervention- carrier status), T1 (first follow-up after intervention - decolonization effectiveness), T2 and T3 (at 1 and 3 months- recolonization). The samples will be sown in an aerobic culture medium and bacterial colonies will be identified by mass spectrometry - MALDI-TOF and tested for the antimicrobial sensitivity profile for *Staphylococcus aureus* (automated method Vitek 2). A questionnaire will be applied to identify possible factors related to colonization in this population. For statistical analysis: ANOVA two-way, complemented by the Bonferroni test. We expect treatments with aPDT and mupirocin to be equivalent.

Biography: Daniella Teixeira Bezerra is a pediatric infectious disease specialist and joined, in 2019, the Nove de Julho University as a *PhD student* in Biophotonics Applied to Health Sciences Program. She has been teaching medicine at the Nove de Julho University, since 2018. Daniella has knowledge about lasertherapy, microbiology and has experience in nosocomial infection control.