TITLE: DETERMINATION OF BIOFILME PRODUCTION AND SUSCEPTIBILITY TO ANTIMICROBIALS BY *STAPHYLOCOCCUS* SPP. AND PRESENCE OF *STREPTOCOCCUS* SPP. PATIENTS ISOLATED WITH CHRONIC RHINOSINUSITIS

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ABSTRAT

The colonization of the nasal mucosa and the oropharynx by bacteria of the genus *Staphylococcus* and *Streptococcus pneumoniae* bacteria can contribute to diseases of the respiratory tract, such as chronic rhinosinusitis with nasal polyposis. The biofilm production by these bacteria assist in the adhesion to the mucosa and antimicrobial resistance contributes to the seriousness of these infections. The study identified through blood agar, Gram staining and catalase bacteria *Streptococcus* spp. and *Staphylococcus* spp. of the nasal cavities and oropharynx of patients diagnosed with chronic rhinosinusitis with nasal polyposis. In the samples of *Staphylococcus* the biofilm production was determined in Congo red agar (CRA) and by the disc-diffusion technique the antimicrobial susceptibility: oxacillin, cefoxitin, amoxicillin with clavulanic acid, penicillin, tetracycline, linezolid, erythromycin, clarithromycin and levofloxacin. Samples were obtained from 34 patients, of whom 33 bacterial samples from the oropharynx 36.4% *Staphylococcus* spp., *Streptococcus* spp 12.1%. and 36.4% with both bacteria. In relation to the nasal cavities, 32 samples were isolated, 71.9% of which were *Staphylococcus* spp. and 15.6% *Staphylococcus* spp. and *Streptococcus* spp. The 46 staphylococci isolated were biofilm producers and antimicrobial susceptibility determination was performed in 30 of these bacteria, 60% were resistant to penicillin, 36.7% to amoxicillin with clavulanic acid, 10% to cefoxitin, 6.7% to tetracycline and 3.3% to clarithromycin. No S*taphylococcus* was found to be resistant to oxacillin, linezolid, erythromycin and levofloxacin. The data indicate the presence of *Streptococcus* spp. and *Staphylococcus* spp. biofilm producers and multiresistant in patients with chronic rhinosinusitis with nasal polyposis that may make it difficult to treat these individuals with this inflammation. Colonization of these bacteria may be related to the local production of IgE, as well as eosinophilic inflammation and influence the significantly higher levels of IL-5 and ECP (eosinophil cationic protein).

Keywords: Biofilm. Chronic rhinosinusitis. Resistance. Staphylococcus spp. Streptococcus spp.

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