

Title: SENSIBILITY OF ANTIMICROBIAL THERAPY OF *Enterococcus faecalis* E *Enterococcus faecium* STRAINS.

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Resumo:

E. faecium is becoming one of the most feared micro-organisms in hospital infections, due to its ease in acquiring resistance to antibiotics than *E. faecalis*. However, missing studies focused on the isolation and identification of *E. faecium* in the oral cavity. Thus, the aim of this study was to compare the strains of *E. faecalis* and *E. faecium* respect to sensitivity to antimicrobial photodynamic therapy (PDT) in vitro. Foram used standard strains of *E. faecalis* (ATCC 4083) and *E. faecium* (ATCC 6569) for the experimental tests. As a light source used was laser of gallium arsenide and aluminum (660nm) and the photosensitizer methylene blue at a concentration of 300 µM. Each strain was subjected to four experimental conditions: Photosensitizer and Laser (F + G +), Saline solution and Laser (F-L +), Photosensitizer without Laser (F + L) and physiologic solution without Laser as a control group (FL-). Then there were two experimental tests: 1) serial dilutions and sowing in Brain Heart Infusion agar for counting colony forming units (CFU / mL), and 2) seeding in Brain Heart Infusion broth to evaluate the viability of cultures and determining the late bactericidal effect of PDT. As strains studied were sensitive to photodynamic therapy with methylene blue (L + P +), with a reduction of 4.10 log₁₀ for *E. faecalis* and *E. faecium* to 4.28 log₁₀ and Laser use alone there was also a statistically significant reduction. We conclude that PDT is statistically significant in reducing these micro-organismos.

Palavras-chave: *Enterococcus faecalis*, *Enterococcus faecium*, Photodynamic Therapy