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INFLUENCE OF FINISHING TECHNIQUES OF NON-NOBLE ALLOYS USED IN PROSTHETIC RESTORATION ON *Candida albicans* BIOFILM DEVELOPMENT IN WET SYSTEMS

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Abstract

Surface quality is one factor that influences the development of microorganisms in contact with materials used in prosthetic restorations. Roughness – at micrometric scale and surface topography - at nanoscale, are features that have affected in time the development of formed fungal cells biofilms on the surface of alloys for removable prosthesis. The paper considered three non-noble dental alloys, whose surface was finished by mechanical and electrolytic methods. On the surface, roughness measurements (Rz, Ra, Rq) and nanometric topography measurements by AFM (Atomic Force Microscopy) were made. Subsequently, on the polished surfaces were cultured fungal cells of *Candida albicans*, the investigations carried out by SEM (Scanning Electron Microscopy) having the role of highlighting the development of the obtained biofilm. Experimental studies have followed to establish the finishing technique capable of providing the highest quality of surface and look at how biofilms of *Candida albicans* have developed, over time, depending on the micrometric and nanometric profile of the metal surface. The conclusion shows that the improvement of finishing technique provided a superior surface quality, but that action was detrimental to the development of *Candida albicans* biofilms.

Key words: AFM, alloys, *Candida albicans*, roughness, SEM

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