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Effect of the type of denture base material on the colonization of *Candida albicans* in oral mucosa in animal model

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Candidiasis caused by *Candida albicans*, which is the most virulent species that can colonize in oral mucosa. A major virulence factor of *Candida albicans* is its ability to adapt to different environments. The treatment of mucosal infections caused by candida and the elucidation of the disease is challenging. Therefore, the study of experimentally induced oral candidiasis in rats is useful to clarify the etiopathology of this condition, improve diagnosis, and search for new therapeutic designs in which it is similar to human. When growing on a medical device or mucosal surface, *Candida albicance* reside as communities embedded in a protective matrix, usually they resist the host defenses, which include depositing and incorporation of several proteins into the biofilm matrix. This study is describing the host's response to Candida biofilms using different materials of the appliances used in animal model which mimicked clinical denture stomatitis. Palatal candidiasis can be seen after one week of fitting the dentures on the rat palate, while during the second week alternating epithelial hyperplasia and atrophy occurs, Intra-epithelial polymorpho-nuclear leukocyte infiltration and chronic inflammatory cell infiltration in the underlying connective tissue was observed in addition to the presence of some protective antibodies . The results show that the presence of acrylic in association with *Candida albicans* is required for oral candidiasis, while chrome-cobalt inoculated with *Candida albicans* caused hyperkeratosis and slight epithelial hyperplasia. The transmission of candida from blastospore to mycelium occurs after one week and mycelium is predominated at the third week, however hyper-orthokeratinization at the fourth week was observed. This constitutes a good evidence for anti candidal protection during oral candidiasis. This will have the potential for including such studies as a powerful tool in understanding the pathogenesis, host interactions, and management of oral mucosal candidal infections.

Biography

Basma E M AlAhmad is the Head of Research and Innovation in Faculty of Dentistry in International Islamic University Malaysia, she started working there since 2009 in both academic and research fields, in research she is research in the faculty doing her researches in the field of microbiology, immunology and endocrinology in relation to oral health in addition to several researches in the field of natural product. He has 15 years of experience in this field. She started her research in studying the response of the bacteria and fungi to different dental materials from different aspects microbiological, immunological and histo-pathological, since 2012 she started her researches on investigating the effect of different natural products in relation to microbiological, immunological, histo-pathological and immune histo-chemical aspects.

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