B-17 Anti-adherence effect of chlorhexidine and cetlypiridium chloride towards Candida albicans attachment to acrylic resin denture plate

Himratul-Aznita WH*, Syukri MD, Khairul-Hanizan A

Department of Oral Biology, Faculty of Dentistry, University of Malaya, Malaysia

Introduction: Candida albicans is indigenous microorganism of the oral cavity. As opportunistic oral microbes, Candida albicans can contribute to the causing of candidosis and denture stomatitis. Objective: Our study was designed with the purpose of to determine the anti-adherence properties of chlorhexidine (CHX) containing oral rinse (Oradex) and cetlypiridium chloride (CPC) of commercialized denture cleanser (Steradent) towards Candida albicans attachment to acrylic resin denture plates. Methods: The acrylic resin denture plates were coated with the respective antimicrobial agents (CHX and CPC). The treated denture plates were then immersed in Candida albicans suspension to allow adherence. Following this, the adhered Candida albicans was sonicated to detach the attached microbes. The resultant suspension was subcultured and incubated for 48 hrs to allow growth of Candida albicans. The CFU of the growth colonies were enumerated and recorded. Results: Both CHX and CPC showed anti-adherence capability. CHX was found to significantly exhibit stronger anti-adherence effect towards Candida albicans compared to CPC. CPC showed a weaker anti-adherence effect which allowed more attachment of Candida albicans to the treated denture plates. Nevertheless, the effects of both agents were dose dependent. In addition, pre-treated denture plates with saliva before being coated with CHX or CPC showed a higher capability of anti-adherence compared to the pre-treated plates with water. This could be possibly due to the contribution of the additional antimicrobial components presence in saliva. Conclusion: CHX exhibited a stronger anti-adherence effect towards Candida albicans compared to CPC. Finally, we therefore suggest that oral rinses containing CHX can be a substitute to commercialized denture cleaner containing CPC in denture hygiene maintenance.

Keywords: anti-adherence, chlorhexidine, cetlypiridium chloride, Candida albicans