Study on the adhesion of Candida tropicalis on Denture Plates


Objective: To determine the anti-adhesion effect of antimicrobial agents against Candida tropicalis to acrylic resin denture plates. Methods: Denture plates were coated with saliva and recoated with three types of antimicrobial agents; 0.12% chlorhexidine gluconate (CHX) (Oradex®), 0.1% hexetidine (Hx) (Bactodol®) and Cetylpyridinium Chloride (CTP) (Steradent®), respectively. The coated plates were then immersed in Candida tropicalis suspension for one minute, after which the plates were transferred into saline solution and sonicated. The resulting suspensions were plated on Sabouraud Dextrose Agar, and incubated for 48hrs. Following this, the CFU of the adhered microbes were enumerated and analysed. Results: It was observed that denture plates coated with CHX allowed the adherence of 100 CFU/ml of C.tropicalis. The adherence to Hx and CTP-coated plates were however totally inhibited. Upon two times dilution of the antimicrobial agents, the adherence was recorded at 100 CFU/ml, 300 CFU/ml and 1900 CFU/ml for Hx, CHX and CTP, respectively. Conclusions: Hx and CHX exhibited a stronger anti-adherence effect towards C.tropicalis compared to CTP. Thus, it is suggested that oral rinses containing Hx or CHX can be a better substitute to commercialized denture cleaner containing CTP.

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