

The effect of chlorhexidine and nystatin on the counts of candida albicans' colonies in different concentrations (An in vitro study)

Najafi Sh¹, Salari B²

¹Assistant professor, Oral Medicine Dept, Tehran University of Medical Sciences, Tehran, Iran

²Post Graduated, Orthodontics Dept, Qazvin University of Medical Sciences, Qazvin, Iran

Abstract

Background and Aim: Denture stomatitis is inflammatory reaction of oral mucosa to damaging stimuli. This lesion is recognized as the most common mucosal lesions in patients using dentures. Infectious source of this lesion is related to Candida family (especially Candida Albicans). The aim of this study was to investigate anti-fungal effect of chlorhexidine against Candida albicans and compare it with nystatin in order to treatment choice of denture stomatitis.

Materials and Methods: This was an experimental investigation, Three concentrations of Candida albicans (105, 106, 107 CFU/mL) were prepared. Chlorhexidine and nystatin were added separately to the same amounts of Candida Albicans, of different concentrations. Each mixture was then sampled at the four specific intervals of 1,2,3 and 4 minutes. (10 times at each interval). In the control group sterile saline was added to Candida Albicans suspensions and the same procedures were done. At last, the number of formed colonies was counted for each plate (totally 360 plates) and analyzed by means of ANOVA and Friedman Test. $P < 0.05$ was considered significant.

Result: Chlorhexidine showed noticeable anti-candida effect on the concentrations of 105 and 106 CFU/mL of candida Albicans. It was as effective as nystatin in these concentrations, but nystatin was statistically more effective on the concentration of 107 CFU/mL. For all concentrations, both studied material had more effectiveness in comparison with the control group for all concentrations.

Conclusion: Chlorhexidine showed noticeable anti-candida effects at low and medium concentrations of Candida Albicans.

Keywords: Chlorhexidine; Nystatin; Candida Albicans; Denture stomatitis