

Long-Term Effect of a Triclosan/Copolymer Dentifrice on Oral Microflora

Bonta Y, Reynolds H, Dunford R, Zambon J, J Dent Res 71:557, 1992

This double-blind clinical study determined the effect on oral microflora of a dentifrice containing Triclosan (0.3%) and Gantrez copolymer (2.0%) compared to a placebo. Subjects were balanced into two groups based on initial plaque and gingivitis scores, received an oral prophylaxis and randomly assigned to use either the Triclosan/copolymer or placebo dentifrice. They were instructed to brush for one minute, twice daily. Supragingival plaque samples were obtained from the buccal and lingual surfaces of the first molars at baseline and after 10, 28 and 56 weeks. The plaque samples were assayed by phase contrast microscopy, immunofluorescent microscopy (*A. actinomycetamcomitans*, *Actinomyces* sp., *B. forsythus*, *Camoyiobacter rectus*, *P. Intermedia*, *S. mutans*, *S. sanguis*) and bacterial culture (lactobacillus, yeast, enterics, staphylococcus and anaerobes). Results of microbiological assays at 56 weeks indicated that supragingival plaque from the two groups (N=36 Triclosan/copolymer, N=36 placebo) were comparable with regard to all parameters studied at all time points and there was no evidence of the development of resistance to Triclosan. There was no apparent difference between the Triclosan/copolymer and placebo groups in the amounts of enterics, aerobes, or anaerobes cultured at all time points. Levels (percent of total colony forming units) of fusiforms ($p < 0.05$) and spirochetes ($p < 0.05$) were significantly lowered and levels of *S. sanguis* ($p < 0.05$) were significantly increased in the Triclosan/copolymer group. Fewer subjects in the Triclosan/copolymer group were recolonized by *Staphylococcus* ($p < 0.05$) and yeast ($p < 0.05$) than in the control group. There were no deleterious effects upon the oral microflora (either in terms of the emergence of opportunistic or resistant organisms) associated with the long-term use of a dentifrice containing 0.3% Triclosan and 2.0% of a Gantrez copolymer, as compared to a placebo.