Sonic vs. manual toothbrush: The effect on periimplant tissues and microflora.

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The effect of Sonicare® sonic toothbrush (SC) vs. manual toothbrush (MT) on periimplant tissue and plaque composition on Ti implants was investigated in this 24 month study. 18 subjects (9 male, 9 female, mean age 36) with 30 implants who maintained a high level of oral hygiene performance were randomly assigned to either sonic SC test group or manual MT control group. Clinical parameters (gingival index (GI), plaque index (PI), probing depth (PD)) as well as plaque samples were observed at baseline, 2, 4, 6, 12, and 24 months. Dark field microscopy was used to assess perimplant plaque composition. Bacterial morphotypes were classified as Type 1: potentially non-pathogenic (cocci, nonmotile rods) or Type 2: potentially pathogenic (motile rods, spirochetes and others).

There was a significant decrease in GI and PI values for the SC group and an increase for the MT group (p<0.05), respectively. PD increased significantly for the MT group (p<0.05), however a decrease in the SC group was nonsignificant. Changes in bacterial morphotypes were nonsignificant for the SC group, while the MT group had a significant increase in pathogenic Type 2 and a decrease of non-pathogenic Type 1 morphotypes (p<0.05). Differences between the SC vs. MT group were significant for both clinical parameters and bacterial morphotypes (p<0.05) over the 2 years observation period.

- Our results show a significant efficacy of SC in reducing GI, PI and PD values and in preventing a negative shift in bacterial morphotypes in plaque on implants as compared to MT.

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