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Is implant flossing a possible risk for the development of peri-implant disease?

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Both in animal experiments and clinical studies, it was established that biofilm deposition on the implant surface was the important etiologic factor for the initiation and the maintenance of peri-implant inflammation and possibly subsequent loss of marginal bone. Prevention of peri-implant infections is therefore of utmost importance for long-term dental implant survival. Maintaining a high standard of oral hygiene is consequently very important for an optimal longevity of oral implants. In that context, cleansing of implants using interproximal cleansing devices is a necessity. A frequently recommended oral hygiene aid is dental floss or superfloss. However, the unrestricted use of these oral hygiene devices in regions with exposed roughened implant surfaces has to be questioned, as new evidences show that pieces of the floss may become trapped in the peri-implant sulcus. The purpose of this communication is to present the possible risks of dental floss encountered with either already existing peri-implantitis lesions or possible connection discrepancies between fixture and abutment. A prime example with diagnosis, treatment and 6 years follow up will be presented by mean of pictures, endoscopic clips, radiographs, recordings and electron microscope examinations.

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Effect of fructans with different degree of polymerization and structure on growth of selected probiotic strains and formation of short chain fatty acids

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Fructans are well known prebiotics which are accumulated by a great variety of plants. The influence of structure and polymerization degree (dp) on the prebiotic potential is not fully elucidated yet. Thus, we compared the growth of selected probiotic strains and their formation of short chain fatty acids (SCFAs) with fructans from different sources related to diverse structures such as un-branched inulin-type (only ß2-1 linkages), mixed-type (combined ß2-1 and ß2-6 linkages with branching) and levans (ß 2-6 linkages) with branching. Fructans from chicory or agaves were separated into fractions of different dp using size exclusion chromatography and tested for their influence on the growth enhancement of selected probiotic strains. Furthermore, the degradation of fructooligosaccharides by probiotics and the formation of short chain fatty acids (SCFAs) were studied. Fructan samples with lower polymerization degree and branching induced the growth of the probiotics faster than those with higher polymerization degree. The correlation between growth induction and polymerization degree was strain dependent. The degradation process of the fructo-oligosaccharides by probiotics correlated well with the growth curves. Some strains grew only with fructans of low dp, some with fructans from all dp, but faster with fructans from low dp and a few strains grew fast even with higher molecular fructans. The formation of SCFAs by selected prebiotic strains or by a mixture of gut bacteria was also dependent on the polymerization degree and branching. Un-branched and branched fructans led to the formation of butyrate which plays a major role in the prevention of colon cancer and other colonic diseases. In conclusion, this study contributes to elucidate the fermentation behavior of selected prebiotic strains dependent on the molecular structure and polymerization degree of the fructans and on their formation of SCFAs; playing a major role for usage in functional food industry and pharmaceutical applications.

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