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### Presence of *Streptococcus mutans* or *Streptococcus sobrinus* in Cariostat<sup>®</sup>-inoculated plaque samples from Japanese mother-child pairs

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**Abstract** The aim of this study was to determine the presence of *Streptococcus mutans* or *Streptococcus sobrinus* in Cariostat-inoculated plaque samples obtained from Japanese mother-child pairs through a conventional PCR technique and to establish the presence of these bacteria and caries risk. Oral examination and caries risk assessment using the Cariostat<sup>®</sup> were carried out on 168 children, aged 6-31 months, and their mothers. The presence of *S.mutans* and *S.sobrinus* in Cariostat-inoculated plaque samples was checked through PCR and tested for relevance with caries risk. A significant correlation ( $P < 0.001$ ) was found between caries risk of mothers and presence of *S.mutans* or *S.sobrinus* in plaque samples from their children in the 19-31-month-old age range. However, no significant relationship found between the presence of either strain in the plaque of younger children (6-18 months) and caries risk of mothers. Likewise, high caries risk was seen in 49.1% of the 19-31-month-old children of high-risk mothers ( $P < 0.001$ ) and 27% of the 6-18-month-old children of high-risk mothers ( $P < 0.05$ ). The effectiveness of the Cariostat method for prediction of caries risk can be improved by detecting the presence of *S.mutans* and *S.sobrinus* in plaque samples obtained from mothers and their children through conventional PCR techniques.

**Key words** Caries risk, Cariostat, PCR, *S.mutans*, *S.sobrinus*



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