Tongue Microbiota Composition and Dental Caries Experience in Primary School Children

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出版情報：Kyushu University, 2021, 博士（歯学）, 課程博士
バージョン：

（様式３）

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論 文 名　：Tongue Microbiota Composition and Dental Caries Experience in Primary School Children
（小学生におけるう蝕経験と舌苔微生物叢の構成）

区　　分　：甲

論　文　内　容　の　要　旨

The tongue microbiota of elderly adults is composed of two cohabiting commensal groups and their ratios are related to the number of teeth with dental caries experience. In this study, the variation in the tongue microbiota of primary school children and its relationship with the dental caries experience were investigated. We examined the tongue microbiota of 138 children aged 6–7 years and 11–12 years (61 and 77 children, respectively) who underwent annual dental examinations. The bacterial composition was determined by sequencing the V1–V2 region of the 16S rRNA gene. Cooccurrence network analysis indicated two groups of cohabiting predominant commensals in the tongue microbiota of children. The microbiota in children without a history of dental caries showed significantly higher relative abundances of one of the cohabiting groups, primarily composed of *Neisseria subflava*, *Porphyromonas pasteri*, and *Fusobacterium periodonticum*, compared to that in children with a history of dental caries, which is consistent with that of elderly adults with fewer teeth with dental caries experience. Linear discriminant analysis Effect Size (LEfSe) further identified *Streptococcus oralis* subsp. *dentisani*, belonging to the aforementioned commensal group, as a discriminant species in children without dental caries experience aged 6–7 years and 11–12 years. Our results describe the tongue microbiota composition of primary school children without history of dental caries and support the possibility that dental caries experience is accompanied by a shift in the tongue microbiota.