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研究題目：経管栄養施行高齢者の口腔フローラが全身の健康状態に及ぼす影響の解明

Objective：

Enteral tube feeding is used widely to maintain nutrition for elderly adults with eating difficulties, but is associated with worse outcomes. We examined the oral microbiota of tube-fed elderly adults, which is the primary source of aspiration pneumonia.

Methods：

The bacterial community on the tongue surface of 98 institutionalized elderly adults（average age 86.4 ± 6.9 years）was investigated by analyzing the 16S rRNA gene. The terminal restriction fragment length polymorphism（T-RFLP）profiles of 44 tube-fed subjects were compared with those of 54 subjects fed orally. To characterize the differences in more detail, pyrosequencing data were also obtained in 17 subjects from each group. In addition, we observed the health outcome over the 6 months following sample collection.

Results：

The T-RFLP profiles demonstrated that the microbiota of tube-fed subjects was distinct from that of subjects fed orally. The pyrosequencing data revealed that various bacteria genera, including Corynebacterium, Fusobacterium, and Peptostreptococcus, were present in markedly high proportions in tube-fed subjects, whereas the dominant genera in the subjects fed orally were much less predominant. Opportunistic pathogens rarely detected in the normal oral microbiota, such as Streptococcus agalactiae and Corynebacterium striatum, were often found in unexpectedly high proportions in tube-fed subjects. The incidence of pneumonia or fever and mortality were significantly higher than in the subjects fed orally.

Conclusion：

Enteral feeding alters the oral indigenous microbiota, allowing health-threatening bacteria to thrive. This may lead to the poor health outcome of enteral feeding.

成果発表：（予定を含めて口頭発表，学術雑誌など）

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学術雑誌 PLoS One に投稿中