Tooth Loss and Mortality from Pneumonia: A Prospective Study of Japanese Dentists.

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INTRODUCTION: Although associations between oral health and pneumonia have been suggested, only a few cohort studies have been reported for free living people. The oral bacteria propagated in periodontal regions may drift into the lung and increase the risk of pneumonia. We, therefore, investigated an association of tooth loss with mortality from pneumonia in a prospective study of Japanese dentists.

METHODS: The members of Japan Dental Association (JDA) participated in this study (LEMONADE [Longitudinal Evaluation of Multi-phasic, Odontological and Nutritional Associations in DEntists] Study). From 2001 through 2006, they completed a baseline questionnaire on lifestyle and health factors including the number of tooth loss (excluding third molars). We followed 19,778 participants (mean age±standard deviation [SD]; 51.4±11.7 years, women; 1,574 [8.0%]) for mortality from pneumonia (ICD10 J12–J18, excluding those with the underlying disease). Mortality data were collected via the fraternal insurance program of the JDA. The Hazard ratios (HR) were estimated with adjustment for sex, age, BMI, smoking status and diabetes history.

RESULTS: During the mean follow-up of 8.9 years, we documented 64 deaths of pneumonia. Participants who were edentulous at baseline were at a significantly increased risk of mortality from pneumonia. The multivariate-adjusted HRs were 1.32 (95% confidence interval [CI], 0.56–3.09) for loss of 5-14 teeth, 2.03 (0.90–4.60) for loss of 15–27 teeth, and 2.44 (1.06–5.65) for edentulous relative to loss of 0-4 teeth (trend P = 0.022). In addition, participants with diabetes at baseline were at a significantly increased risk (the
multivariate-adjusted HR was 1.85 [95% CI 1.01–3.37]), and those without emaciation at baseline were at a significantly decreased risk (the multivariate-adjusted HR was 0.33 [95% CI 0.18–0.63] for 18.5<BMI<25.0, and 0.35 [0.15–0.82] for BMI>25.0 relative to BMI<18.5).

CONCLUSIONS: Our findings suggest that a large number of tooth loss is indicative of risk of mortality from pneumonia in free living populations.