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研究題目：メンテナンス期間中における，失活歯数が歯の喪失に及ぼす影響

目的：

It has been reported that various factors are associated with tooth loss during the maintenance phase. Meanwhile, non-vital teeth has been reported to be at risk for tooth loss. In addition, with regard to the relationship between non-vital teeth and tooth loss, non-vital teeth has been reported to be a factor associated with tooth loss during supportive periodontal therapy. Therefore, we hypothesized that the number of non-vital teeth is a useful indicator of tooth loss. The aim of this study was to investigate whether the number of non-vital teeth was a useful indicator of and predictive factor for tooth loss during the maintenance period.

対象および方法：

1) Participating dentists

We sent questionnaires to 33 dentists who were general practitioners and engaged in patient recall for maintenance to prevent tooth loss. Fifteen of the dental offices were located in the Kanto region, seven in the Kinki region, three in the Shikoku region, two in the Tohoku region, two in the Chubu region, two in the Kyusyu region and two in the Chugoku region of Japan.

2) Participants

Participants initially visited the dental clinics between January 2003 and November 2005 and again between July and December 2015. They were aged 40 to 65 years, and treatment had been completed before December 2005. All participants visited the same dental clinic over a period of 10 years and were dentulous.

3) Survey items

Age, number of present teeth (PT), number of non-vital teeth and bone loss were the data obtained at the initial visit. The observation period for tooth loss was from January 2005 to July 2015. Namely, information on tooth loss was obtained during the maintenance period. Smoking status was investigated by using a questionnaire when participants visited the clinic in 2015. In terms of the definition of tooth loss, we targeted only permanent teeth and excluded extraction of third molars.

4) Statistical analysis

A multiple logistic regression was performed to reveal a relationship between tooth loss and

the number of non-vital teeth. The dependent variable was the presence or absence of tooth extraction. Adjusting for age, number of PT, bone loss level and smoking status, the number of non-vital teeth was entered in the multiple logistic regression as independent variables. The multiple logistic regression was performed using the forced-entry method. Data were analysed using the computerized statistical package SPSS, version 22.0 (SPSS Japan, Inc. ; Tokyo, Japan) , and a significance level of 5% was used.

結果および考察：

Table 1 shows the distribution of the numbers of non-vital teeth based on age and sex. In male subjects, 0-2 was the highest number of non-vital teeth in both 40-54 year olds and in 55-65 year olds (45.5% and 44.3% , respectively). In female subjects, 0-2 was the highest number of non-vital teeth in 40-54year olds (36.5%), whereas 8 < was the highest number in 55-65 years old (35.0%) .

Table 1 Distribution of the number of non-vital teeth based on age and sex (n=321)

Number of non-vital teeth	Male (n=125)					Female (n=196)				
	40-54 years		55-65 years		Total	40-54 years		55-65 years		Total
	n	%	n	%	n	n	%	n	%	n
0-2	25	45.5	31	44.3	56	35	36.5	20	20.0	55
3-4	12	21.8	11	15.7	23	14	14.6	18	18.0	32
5-8	11	20.0	18	25.7	29	24	25.0	27	27.0	51
8 <	7	12.7	10	14.3	17	23	24.0	35	35.0	58
Total	55	100	70	100	125	96	100	100	100	196

Table 2 presents the multiple logistic regression analysis results for tooth loss during the 10-year observation period. After adjusting for sex, age, number of PT, smoking status and bone loss level, the number of non-vital teeth 8 < teeth was found to be significantly associated with tooth loss during the maintenance period [odds ratio : 2.40, 95% confidence interval : 1.18-4.87] .

Table 2 The results of the multiple logistic regression analysis for tooth loss during the 10-year observation period (n=321)

		AOR	95% CI	P values
Number of non-vital teeth at baseline	0-2	1.00		
	3-4	1.19	0.57-2.48	0.638
	5-8	1.52	0.78-2.95	0.197
	8 <	2.40	1.18-4.87	0.015

Adjusted for sex, age, number of present teeth, smoking status and bone loss level.

The results of our study revealed that the number of non-vital teeth was associated with tooth loss during the maintenance period, even after adjusting for age group, smoking status,

number of PT and bone loss level. In particular, patients having many non-vital teeth before shifting to maintenance may be at a risk of tooth loss. Therefore, the number of non-vital teeth would be useful indicator for tooth loss.

成果発表：（予定を含めて口頭発表，学術雑誌など）

Seitaro Suzuki, Koichi Yoshino, Atsushi Takayanagi, Seiichi Sugiyama, Masaki Okamoto, Masahiro Tanaka, Yoichi Ishizuka, Ryouichi Satou, Yuki Onose, Hideyuki Kamijo and Naoki Sugihara. The number of non-vital teeth as an indicator of tooth loss during 10-year maintenance : a retrospective study. *The Bulletin of Tokyo Dental College* (in press)