

**The association of clinically determined periodontal disease and edentulism with total cancer mortality:  
the National Health and Nutrition Examination Survey III**

Yuhan Huang, Dominique S. Michaud, Jiayun S. Lu, Elizabeth A. Platz

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Supplement Table 1. Weighted Characteristics of Participants Overall and across CDC/AAP Definitions of Periodontal Disease and Edentulism, 6,034 Participants  $\geq 40$  Years Old in NHANES III <sup>a</sup>

	Overall (n=6,034)	No Periodontal Disease (n=3,586)	Mild Periodontal Disease (n=163)	Moderate Periodontal Disease (n=919)	Severe Periodontal Disease (n=214)	Edentulism (n=1,152)
Age, mean (SD), year	56.7 (12.5)	53.9 (10.8)	54.7 (11.0)	59.0 (14.0)	59.5 (13.0)	66.1 (12.7)
Male (%)	48.4	46.2	55.0	61.5	69.8	44.2
BMI, mean (SD), kg/m <sup>2</sup>	27.4 (5.1)	27.3 (4.7)	27.9 (4.8)	27.5 (5.6)	27.9 (7.1)	27.7 (5.8)
Race/ethnicity (%)						
Non-Hispanic White	80.1	81.2	73.0	73.6	61.0	84.1
Non-Hispanic Black	10.1	8.5	14.9	15.5	21.8	10.0
Mexican-American	3.5	3.7	3.8	4.9	4.6	1.4
Other race/ethnicity	6.4	6.6	8.4	6.0	12.6	4.6
Health insurance (%)						
Covered	96.8	97.0	93.2	96.2	92.4	97.5
Education (%)						
<High school	14.3	8.5	12.6	16.8	27.8	33.5
High school	46.4	43.1	48.3	55.2	51.3	52.4
>High school	39.4	48.4	38.1	28.0	20.9	14.1
Income (%), dollars						
<16,000	20.0	13.2	27.9	27.0	28.0	40.2
16,000-39,999	35.6	35.2	36.1	34.2	42.8	37.1
>39,999	44.4	51.7	36.0	38.8	29.2	22.7
Pack-years, mean (SD)	15.0 (24.8)	10.8 (18.7)	18.5 (27.3)	22.0 (31.9)	23.1 (33.0)	25.2 (36.3)
Cigarette smoking status (%)						
Never	44.8	51.5	37.1	29.1	20.6	33.6
Former	33.5	32.2	43.2	31.6	31.0	38.9
Current	21.7	16.3	19.8	39.3	48.4	27.5

Diabetes (%)							
No diabetes	53.3	59.5	50.8	41.5	38.4	39.2	
Pre-diabetes	34.0	30.9	35.8	41.6	39.8	40.0	
Diabetes	12.7	9.6	13.4	16.9	21.8	20.8	

<sup>a</sup> CDC/AAP = Centers for Disease Control/American Academy of Periodontology, SD = standard deviation

<sup>a</sup> Assessed one upper quadrant and one lower quadrant. Mild periodontitis was defined as  $\geq 2$  interproximal sites with AL  $\geq 3$  mm, and  $\geq 2$  interproximal sites with PD  $\geq 4$  mm (not on the same tooth) or 1 site with PD  $\geq 5$  mm. Moderate periodontitis was defined as  $\geq 2$  interproximal sites with AL  $\geq 4$  mm (not on the same tooth), or  $\geq 2$  interproximal sites with PD  $\geq 5$  mm (not on the same tooth). Severe periodontitis was defined as  $\geq 2$  interproximal sites with AL  $\geq 6$  mm (not on the same tooth), and  $\geq 1$  interproximal site with PD  $\geq 5$  mm.

Supplement Table 2. Overall and Obesity-Specific Association of Periodontal Disease and Edentulism with Total Cancer Mortality, 6,034 Participants  $\geq 40$  Years Old in NHANES III<sup>a</sup>

	Overall			Obesity specific					
	Cases	Person-years	HR (95% CI)	Normal BMI			Overweight/Obese		
Cases				Person-years	HR (95% CI)	Cases	Person-years	HR (95% CI)	
Model 1 <sup>b</sup>									
Periodontitis (NHANES)									
No	353	70847	1 (ref)	120	21535	1 (ref)	233	49312	1 (ref)
Yes	151	20534	1.17 (0.85, 1.62)	41	5444	1.10 (0.60, 1.99)	110	15090	1.19 (0.81, 1.76)
Edentulism	198	14537	1.96 (1.45, 2.65)	72	4862	1.53 (0.95, 2.46)	126	9674	2.18 (1.59, 3.00)
Periodontitis (CDC/AAP)									
No	318	70483	1 (ref)	103	21027	1 (ref)	215	49456	1 (ref)
Mild	17	3007	1.15 (0.60, 2.20)	4	726	0.86 (0.24, 3.02)	13	2281	1.33 (0.60, 2.95)
Moderate	133	14591	1.29 (0.89, 1.87)	45	4218	1.55 (0.84, 2.86)	88	10373	1.13 (0.74, 1.70)
Severe	36	3299	1.72 (0.88, 3.35)	9	1007	1.99 (0.54, 7.35)	27	2292	1.46 (0.78, 2.75)
<i>P</i> -trend			0.07			0.13			0.29
Edentulism	198	14537	2.04 (1.49, 2.80)	72	4862	1.70 (1.04, 2.77)	126	9674	2.21 (1.60, 3.04)
Model 2 <sup>c</sup>									
Periodontitis (NHANES)									
No	353	70847	1 (ref)	120	21535	1 (ref)	233	49312	1 (ref)
Yes	151	20534	1.00 (0.73, 1.37)	41	5444	0.94 (0.52, 1.68)	110	15090	1.03 (0.70, 1.53)
Edentulism	198	14537	1.58 (1.19, 2.09)	72	4862	1.15 (0.71, 1.87)	126	9674	1.78 (1.31, 2.41)
Periodontitis (CDC/AAP)									
No	318	70483	1 (ref)	103	21027	1 (ref)	215	49456	1 (ref)
Mild	17	3007	1.10 (0.59, 2.03)	4	726	0.78 (0.24, 2.51)	13	2281	1.35 (0.66, 2.78)
Moderate	133	14591	1.02 (0.70, 1.48)	45	4218	1.19 (0.63, 2.26)	88	10373	0.92 (0.60, 1.42)
Severe	36	3299	1.23 (0.62, 2.45)	9	1007	1.29 (0.35, 4.82)	27	2292	1.09 (0.56, 2.13)
<i>P</i> -trend			0.55			0.45			0.95

Model 3 <sup>d</sup>	Edentulism	198	14537	1.61 (1.20, 2.16)	72	4862	1.24 (0.74, 2.08)	126	9674	1.76 (1.30, 2.39)
	Periodontitis (NHANES)									
	No	353	70847	1 (ref)	120	21535	1 (ref)	233	49312	1 (ref)
	Yes	151	20534	0.99 (0.72, 1.36)	41	5444	0.93 (0.50, 1.72)	110	15090	1.00 (0.69, 1.47)
	Edentulism	198	14537	1.50 (1.12, 2.00)	72	4862	1.09 (0.64, 1.87)	126	9674	1.68 (1.25, 2.24)
	Periodontitis (CDC/AAP)									
	No	318	70483	1 (ref)	103	21027	1 (ref)	215	49456	1 (ref)
	Mild	17	3007	1.06 (0.56, 1.99)	4	726	0.71 (0.20, 2.53)	13	2281	1.28 (0.63, 2.58)
	Moderate	133	14591	1.00 (0.68, 1.46)	45	4218	1.20 (0.63, 2.28)	88	10373	0.89 (0.58, 1.36)
	Severe	36	3299	1.20 (0.60, 2.38)	9	1007	1.28 (0.30, 5.35)	27	2292	1.03 (0.54, 1.98)
	<i>P</i> -trend			0.70			0.53			0.87
	Edentulism	198	14537	1.52 (1.12, 2.07)	72	4862	1.19 (0.67, 2.11)	126	9674	1.65 (1.23, 2.22)

<sup>a</sup> HR = hazard ratio, CI = confidence interval, CDC/AAP = Centers for Disease Control/American Academy of Periodontology

<sup>b</sup> Model 1 adjusted for age in years (continuous), sex (males and females), and race/ethnicity (non-Hispanic Black, and non-Hispanic White, Mexican-American, other race/ethnicity).

<sup>c</sup> Model 2 adjusted for age in years (continuous), sex (males and females), race/ethnicity (non-Hispanic Black, and non-Hispanic White, Mexican-American, other race/ethnicity), body mass index (continuous), pack years (continuous), smoking status (never, former, current), and diabetes (non-diabetic, pre-diabetic, diabetic).

<sup>d</sup> Model 3 adjusted for age in years (continuous), sex (males and females), race/ethnicity (non-Hispanic Black, and non-Hispanic White, Mexican-American, other race/ethnicity), body mass index (continuous), pack years (continuous), smoking status (never, former, current), diabetes (non-diabetic, pre-diabetic, diabetic), education (<high school, high school, >high school), annual family income (<\$25000, \$25000-\$74999, >\$74999), and health insurance (covered and not covered).

Supplement Table 3. Overall and Diabetes-Specific Association of Periodontal Disease and Edentulism with Total Cancer Mortality, 6,034 Participants  $\geq 40$  Years Old in NHANES III<sup>a</sup>

	Overall			Diabetes specific <sup>c</sup>					
				Non-diabetic			Pre/diabetic		
	Cases	Person-years	HR (95% CI)	Cases	Person-years	HR (95% CI)	Cases	Person-years	HR (95% CI)
Model 1 <sup>b</sup>									
Periodontitis (NHANES)									
No	353	70847	1 (ref)	150	36140	1 (ref)	203	34707	1 (ref)
Yes	151	20534	1.17 (0.85, 1.62)	54	8417	0.89 (0.53, 1.50)	97	12117	1.53 (1.12, 2.10)
Edentulism	198	14537	1.96 (1.45, 2.65)	64	5483	0.89 (0.53, 1.50)	134	9054	2.24 (1.47, 3.41)
Periodontitis (CDC/AAP)									
No	318	70483	1 (ref)	138	36884	1 (ref)	180	33599	1 (ref)
Mild	17	3007	1.15 (0.60, 2.20)	7	1326	0.68 (0.26, 1.75)	10	1681	1.64 (0.79, 3.39)
Moderate	133	14591	1.29 (0.89, 1.87)	48	5320	1.67 (0.92, 3.05)	85	9271	1.06 (0.73, 1.53)
Severe	36	3299	1.72 (0.88, 3.35)	11	1027	1.43 (0.60, 3.41)	25	2272	2.00 (0.90, 4.42)
<i>P</i> -trend			0.07			0.10			0.21
Edentulism	198	14537	2.04 (1.49, 2.80)	64	5483	1.83 (1.08, 3.08)	134	9054	2.17 (1.41, 3.34)
Model 2 <sup>c</sup>									
Periodontitis (NHANES)									
No	353	70847	1 (ref)	150	36140	1 (ref)	203	34707	1 (ref)
Yes	151	20534	1.00 (0.73, 1.37)	54	8417	0.76 (0.46, 1.26)	97	12117	1.34 (0.98, 1.83)
Edentulism	198	14537	1.58 (1.19, 2.09)	64	5483	1.33 (0.80, 2.20)	134	9054	1.80 (1.19, 2.73)
Periodontitis (CDC/AAP)									
No	318	70483	1 (ref)	138	36884	1 (ref)	180	33599	1 (ref)

Mild	17	3007	1.10 (0.59, 2.03)	7	1326	0.62 (0.24, 1.62)	10	1681	1.62 (0.80, 3.28)
Moderate	133	14591	1.02 (0.70, 1.48)	48	5320	1.37 (0.75, 2.51)	85	9271	0.84 (0.59, 1.21)
Severe	36	3299	1.23 (0.62, 2.45)	11	1027	1.07 (0.39, 2.92)	25	2272	1.54 (0.72, 3.30)
<i>P</i> -trend			0.55			0.36			0.78
Edentulism	198	14537	1.61 (1.20, 2.16)	64	5483	1.49 (0.89, 2.51)	134	9054	1.69 (1.10, 2.59)
Model 3 <sup>d</sup>									
Periodontitis (NHANES)									
No	353	70847	1 (ref)	150	36140	1 (ref)	203	34707	1 (ref)
Yes	151	20534	0.99 (0.72, 1.36)	54	8417	0.75 (0.45, 1.27)	97	12117	1.30 (0.95, 1.78)
Edentulism	198	14537	1.50 (1.12, 2.00)	64	5483	1.26 (0.72, 2.19)	134	9054	1.71 (1.13, 2.59)
Periodontitis (CDC/AAP)									
No	318	70483	1 (ref)	138	36884	1 (ref)	180	33599	1 (ref)
Mild	17	3007	1.06 (0.56, 1.99)	7	1326	0.61 (0.23, 1.60)	10	1681	1.53 (0.74, 3.18)
Moderate	133	14591	1.00 (0.68, 1.46)	48	5320	1.37 (0.73, 2.57)	85	9271	0.82 (0.56, 1.20)
Severe	36	3299	1.20 (0.60, 2.38)	11	1027	1.06 (0.37, 3.04)	25	2272	1.48 (0.69, 3.19)
<i>P</i> -trend			0.70			0.48			0.88
Edentulism	198	14537	1.52 (1.12, 2.07)	64	5483	1.44 (0.80, 2.57)	134	9054	1.60 (1.05, 2.45)

<sup>a</sup> HR = hazard ratio, CI = confidence interval, CDC/AAP = Centers for Disease Control/American Academy of Periodontology

<sup>b</sup> Model 1 adjusted for age in years (continuous), sex (males and females), and race/ethnicity (non-Hispanic Black, and non-Hispanic White, Mexican-American, other race/ethnicity).

<sup>c</sup> Model 2 adjusted for age in years (continuous), sex (males and females), race/ethnicity (non-Hispanic Black, and non-Hispanic White, Mexican-American, other race/ethnicity), body mass index (continuous), pack years (continuous), smoking status (never, former, current), and diabetes (non-diabetic, pre-diabetic, diabetic).

<sup>d</sup> Model 3 adjusted for age in years (continuous), sex (males and females), race/ethnicity (non-Hispanic Black, and non-Hispanic White, Mexican-American, other race/ethnicity), body mass index (continuous), pack years (continuous), smoking status (never, former, current), diabetes (non-diabetic, pre-diabetic, diabetic), education (<high school, high school, >high school), annual family income (<\$25000, \$25000-\$74999, >\$74999), and health insurance (covered and not covered).

<sup>e</sup> For analysis stratified by diabetes, none of the three models adjusted for diabetes.

Supplement Table 4. Overall and Smoking-Specific Association of Periodontal Disease and Edentulism with Total Cancer Mortality, 6,034 Participants  $\geq 40$  Years Old in NHANES III<sup>a</sup>

	Overall			Smoking specific <sup>c</sup>					
	Cases	Person-years	HR (95% CI)	Never Smoker			Ever Smoker		
Cases				Person-years	HR (95% CI)	Cases	Person-years	HR (95% CI)	
Model 1 <sup>b</sup>									
Periodontitis (NHANES)									
No	353	70847	1 (ref)	145	37614	1 (ref)	208	33233	1 (ref)
Yes	151	20534	1.17 (0.85, 1.62)	35	7911	0.61 (0.39, 0.96)	116	12623	1.24 (0.84, 1.81)
Edentulism	198	14537	1.96 (1.45, 2.65)	55	6285	1.18 (0.76, 1.83)	143	8252	2.00 (1.36, 2.92)
Periodontitis (CDC/AAP)									
No	318	70483	1 (ref)	140	37924	1 (ref)	178	32560	1 (ref)
Mild	17	3007	1.15 (0.60, 2.20)	6	1391	1.19 (0.40, 3.57)	11	1616	1.06 (0.47, 2.40)
Moderate	133	14591	1.29 (0.89, 1.87)	29	5305	0.83 (0.43, 1.57)	104	9286	1.27 (0.81, 2.00)
Severe	36	3299	1.72 (0.88, 3.35)	5	905	1.06 (0.39, 2.83)	31	2394	1.58 (0.73, 3.42)
<i>P</i> -trend			0.07			0.70			0.17
Edentulism	198	14537	2.04 (1.49, 2.80)	55	6285	1.23 (0.75, 2.00)	143	8252	2.05 (1.38, 3.05)
Model 2 <sup>c</sup>									
Periodontitis (NHANES)									
No	353	70847	1 (ref)	145	37614	1 (ref)	208	33233	1 (ref)
Yes	151	20534	1.00 (0.73, 1.37)	35	7911	0.60 (0.38, 0.94)	116	12623	1.16 (0.79, 1.70)
Edentulism	198	14537	1.58 (1.19, 2.09)	55	6285	1.12 (0.73, 1.73)	143	8252	1.78 (1.22, 2.60)
Periodontitis (CDC/AAP)									
No	318	70483	1 (ref)	140	37924	1 (ref)	178	32560	1 (ref)
Mild	17	3007	1.10 (0.59, 2.03)	6	1391	1.19 (0.40, 3.54)	11	1616	1.07 (0.48, 2.37)
Moderate	133	14591	1.02 (0.70, 1.48)	29	5305	0.81 (0.43, 1.54)	104	9286	1.11 (0.71, 1.76)
Severe	36	3299	1.23 (0.62, 2.45)	5	905	0.94 (0.35, 2.57)	31	2394	1.31 (0.59, 2.90)
<i>P</i> -trend			0.55			0.64			0.44



Model 3 <sup>d</sup>	Edentulism	198	14537	1.61 (1.20, 2.16)	55	6285	1.17 (0.72, 1.89)	143	8252	1.79 (1.20, 2.67)
	Periodontitis (NHANES)									
	No	353	70847	1 (ref)	145	37614	1 (ref)	208	33233	1 (ref)
	Yes	151	20534	0.99 (0.72, 1.36)	35	7911	0.59 (0.38, 0.92)	116	12623	1.14 (0.78, 1.67)
	Edentulism	198	14537	1.50 (1.12, 2.00)	55	6285	1.09 (0.70, 1.71)	143	8252	1.68 (1.14, 2.47)
	Periodontitis (CDC/AAP)									
	No	318	70483	1 (ref)	140	37924	1 (ref)	178	32560	1 (ref)
	Mild	17	3007	1.06 (0.56, 1.99)	6	1391	1.17 (0.39, 3.47)	11	1616	1.04 (0.46, 2.34)
	Moderate	133	14591	1.00 (0.68, 1.46)	29	5305	0.80 (0.41, 1.55)	104	9286	1.09 (0.68, 1.74)
	Severe	36	3299	1.20 (0.60, 2.38)	5	905	0.94 (0.35, 2.53)	31	2394	1.29 (0.58, 2.85)
	<i>P</i> -trend			0.70			0.53			0.52
	Edentulism	198	14537	1.52 (1.12, 2.07)	55	6285	1.14 (0.69, 1.89)	143	8252	1.69 (1.12, 2.55)

<sup>a</sup> HR = hazard ratio, CI = confidence interval, CDC/AAP = Centers for Disease Control/American Academy of Periodontology

<sup>b</sup> Model 1 adjusted for age in years (continuous), sex (males and females), and race/ethnicity (non-Hispanic Black, and non-Hispanic White, Mexican-American, other race/ethnicity).

<sup>c</sup> Model 2 adjusted for age in years (continuous), sex (males and females), race/ethnicity (non-Hispanic Black, and non-Hispanic White, Mexican-American, other race/ethnicity), body mass index (continuous), pack years (continuous), smoking status (never, former, current), and diabetes (non-diabetic, pre-diabetic, diabetic).

<sup>d</sup> Model 3 adjusted for age in years (continuous), sex (males and females), race/ethnicity (non-Hispanic Black, and non-Hispanic White, Mexican-American, other race/ethnicity), body mass index (continuous), pack years (continuous), smoking status (never, former, current), diabetes (non-diabetic, pre-diabetic, diabetic), education (<high school, high school, >high school), annual family income (<\$25000, \$25000-\$74999, >\$74999), and health insurance (covered and not covered).

<sup>e</sup> For analysis stratified by smoking status, none of the three models adjusted for pack years and smoking status in never smokers, and pack years and smoking status (former, current) were adjusted for ever smokers in model 2 and model 3.

Supplement Table 5. Sensitivity Analysis of Overall Association of Periodontal Disease and Edentulism with Total Cancer Mortality, 6,034 Participants  $\geq 40$  Years Old in NHANES III<sup>a</sup>

	Censored at 11.0 years of follow-up			Censored at 21.3 years of follow-up			Censored at December, 2015		
	Cases	Person-years	HR (95% CI)	Cases	Person-years	HR (95% CI)	Cases	Person-years	HR (95% CI)
Model 1 <sup>b</sup>									
Periodontitis (NHANES)									
No	145	37735	1 (ref)	314	65190	1 (ref)	353	70847	1 (ref)
Yes	69	11344	1.24 (0.84, 1.81)	136	18855	1.15 (0.80, 1.66)	151	20534	1.17 (0.85, 1.62)
Edentulism	125	9758	2.15 (1.50, 3.06)	192	13939	2.05 (1.49, 2.81)	198	14537	1.96 (1.45, 2.65)
Periodontitis (CDC/AAP)									
No	231	56441	1 (ref)	276	64575	1 (ref)	318	70483	1 (ref)
Mild	14	2417	1.41 (0.69, 2.90)	17	2740	1.38 (0.71, 2.69)	17	3007	1.15 (0.60, 2.20)
Moderate	110	12321	1.50 (1.04, 2.16)	123	13637	1.33 (0.94, 1.88)	133	14591	1.29 (0.89, 1.87)
Severe	28	2832	1.97 (0.91, 4.30)	34	3094	1.96 (1.00, 3.87)	36	3299	1.72 (0.88, 3.35)
<i>P</i> -trend			0.02			0.04			0.07
Edentulism	177	12927	2.32 (1.61, 3.36)	192	13939	2.18 (1.58, 3.03)	198	14537	2.04 (1.49, 2.80)
Model 2 <sup>c</sup>									
Periodontitis (NHANES)									
No	145	37735	1 (ref)	314	65190	1 (ref)	353	70847	1 (ref)
Yes	69	11344	1.05 (0.72, 1.53)	136	18855	0.99 (0.69, 1.41)	151	20534	1.00 (0.73, 1.37)
Edentulism	125	9758	1.69 (1.21, 2.37)	192	13939	1.63 (1.21, 2.19)	198	14537	1.58 (1.19, 2.09)
Periodontitis (CDC/AAP)									
No	231	56441	1 (ref)	276	64575	1 (ref)	318	70483	1 (ref)
Mild	14	2417	1.35 (0.69, 2.67)	17	2740	1.32 (0.70, 2.49)	17	3007	1.10 (0.59, 2.03)
Moderate	110	12321	1.16 (0.81, 1.67)	123	13637	1.04 (0.73, 1.48)	133	14591	1.02 (0.70, 1.48)
Severe	28	2832	1.38 (0.62, 3.08)	34	3094	1.39 (0.69, 2.83)	36	3299	1.23 (0.62, 2.45)
<i>P</i> -trend			0.20			0.35			0.55
Edentulism	177	12927	1.78 (1.27, 2.52)	192	13939	1.70 (1.25, 2.30)	198	14537	1.61 (1.20, 2.16)
Model 3 <sup>d</sup>									

Periodontitis (NHANES)										
No	145	37735	1 (ref)	314	65190	1 (ref)	353	70847	1 (ref)	
Yes	69	11344	1.03 (0.70, 1.50)	136	18855	0.97 (0.68, 1.39)	151	20534	0.99 (0.72, 1.36)	
Edentulism	125	9758	1.62 (1.13, 2.30)	192	13939	1.55 (1.14, 2.09)	198	14537	1.50 (1.12, 2.00)	
Periodontitis (CDC/AAP)										
No	231	56441	1 (ref)	276	64575	1 (ref)	318	70483	1 (ref)	
Mild	14	2417	1.30 (0.65, 2.61)	17	2740	1.28 (0.67, 2.44)	17	3007	1.06 (0.56, 1.99)	
Moderate	110	12321	1.14 (0.79, 1.63)	123	13637	1.01 (0.71, 1.46)	133	14591	1.00 (0.68, 1.46)	
Severe	28	2832	1.33 (0.59, 2.96)	34	3094	1.36 (0.67, 2.73)	36	3299	1.20 (0.60, 2.38)	
<i>P</i> -trend			0.27			0.46			0.70	
Edentulism	177	12927	1.70 (1.18, 2.44)	192	13939	1.61 (1.17, 2.20)	198	14537	1.52 (1.12, 2.07)	

<sup>a</sup> HR = hazard ratio, CI = confidence interval, CDC/AAP = Centers for Disease Control/American Academy of Periodontology

<sup>b</sup> Model 1 adjusted for age in years (continuous), sex (males and females), and race/ethnicity (non-Hispanic Black, and non-Hispanic White, Mexican-American, other race/ethnicity).

<sup>c</sup> Model 2 adjusted for age in years (continuous), sex (males and females), race/ethnicity (non-Hispanic Black, and non-Hispanic White, Mexican-American, other race/ethnicity), body mass index (continuous), pack years (continuous), smoking status (never, former, current), and diabetes (non-diabetic, pre-diabetic, diabetic).

<sup>d</sup> Model 3 adjusted for age in years (continuous), sex (males and females), race/ethnicity (non-Hispanic Black, and non-Hispanic White, Mexican-American, other race/ethnicity), body mass index (continuous), pack years (continuous), smoking status (never, former, current), diabetes (non-diabetic, pre-diabetic, diabetic), education (<high school, high school, >high school), annual family income (<\$25000, \$25000-\$74999, >\$74999), and health insurance (covered and not covered).

Supplement Table 6. Overall Association of Periodontal Disease and Edentulism with Total Cancer Mortality, 11,136 Participants  $\geq 18$  Years Old in NHANES III<sup>a</sup>

	Cases	Overall Person-years	HR (95% CI)
Model 1 <sup>b</sup>			
Periodontitis (NHANES)			
No	431	174508	1 (ref)
Yes	170	33708	1.31 (0.99, 1.74)
Edentulism	199	15097	2.02 (1.49, 2.73)
Periodontitis (CDC/AAP)			
No	401	179167	1 (ref)
Mild	21	5765	1.43 (0.77, 2.64)
Moderate	140	19196	1.42 (1.00, 2.02)
Severe	39	4088	2.17 (1.15, 4.11)
<i>P</i> -trend			<0.01
Edentulism	199	15097	2.13 (1.56, 2.91)
Model 2 <sup>c</sup>			
Periodontitis (NHANES)			
No	431	174508	1 (ref)
Yes	170	33708	1.11 (0.85, 1.47)
Edentulism	199	15097	1.62 (1.23, 2.15)
Periodontitis (CDC/AAP)			
No	401	179167	1 (ref)
Mild	21	5765	1.30 (0.72, 2.36)
Moderate	140	19196	1.11 (0.79, 1.57)
Severe	39	4088	1.55 (0.80, 2.99)
<i>P</i> -trend			0.17
Edentulism	199	15097	1.67 (1.25, 2.24)

Model 3 <sup>d</sup>			
Periodontitis (NHANES)			
No	431	174508	1 (ref)
Yes	170	33708	1.09 (0.83, 1.44)
Edentulism	199	15097	1.53 (1.15, 2.04)
Periodontitis (CDC/AAP)			
No	401	179167	1 (ref)
Mild	21	5765	1.27 (0.69, 2.32)
Moderate	140	19196	1.09 (0.76, 1.55)
Severe	39	4088	1.49 (0.77, 2.89)
<i>P</i> -trend			0.27
Edentulism	199	15097	1.58 (1.17, 2.14)

<sup>a</sup> HR = hazard ratio, CI = confidence interval, CDC/AAP = Centers for Disease Control/American Academy of Periodontology; Only 1 person with edentulism and 3 people with severe PD died of cancer among those who were aged 18-40 years

<sup>b</sup> Model 1 adjusted for age in years (continuous), sex (males and females), and race/ethnicity (non-Hispanic Black, and non-Hispanic White, Mexican-American, other race/ethnicity).

<sup>c</sup> Model 2 adjusted for age in years (continuous), sex (males and females), race/ethnicity (non-Hispanic Black, and non-Hispanic White, Mexican-American, other race/ethnicity), body mass index (continuous), pack years (continuous), smoking status (never, former, current), and diabetes (non-diabetic, pre-diabetic, diabetic).

<sup>d</sup> Model 3 adjusted for age in years (continuous), sex (males and females), race/ethnicity (non-Hispanic Black, and non-Hispanic White, Mexican-American, other race/ethnicity), body mass index (continuous), pack years (continuous), smoking status (never, former, current), diabetes (non-diabetic, pre-diabetic, diabetic), education (<high school, high school, >high school), annual family income (<\$25000, \$25000-\$74999, >\$74999), and health insurance (covered and not covered).