

Periodontal disease and all cause and cardiovascular mortality in hemodialysis patients: a prospective multinational cohort study

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Background In the general population, periodontal disease is associated with increased cardiovascular mortality. We have evaluated the association between periodontitis and all-cause and cardiovascular mortality in adults on hemodialysis

Methods ORAL-D is a multinational prospective cohort study of consecutive adults receiving hemodialysis in 75 outpatient clinics selected randomly from a collaborative dialysis network in Italy, Hungary, Poland, Argentina, Portugal, France and Spain. A dental surgeon evaluated presence of periodontitis with standard methods, defined as a Community Periodontal Index (CPI) score >3 during a standardized oral examination. We assessed survival at 12 months using centralized mortality data. We conducted analysis with Cox regression controlling for age, gender, depressive symptoms, previous cardiovascular event, clinical performance measures, dialysis prescription and performance indicators.

Results 3340 dentate hemodialysis patients in the participating clinics received a complete evaluation for periodontitis and completed follow up. Median follow up was 21.6 (19.5 to 28.4) months. 3036 patients (91%) had periodontitis and 344 (10%) died during follow up. While unadjusted analysis suggested an association between periodontitis and mortality, adjusted analysis had shown no associations with risks of all-cause (HR 1.11 [95% CI 0.68-1.82]) or cardiovascular (HR 2.20 [95% CI 0.94-5.11]) mortality.

Association between periodontal status and risk of all cause and cardiovascular disease

Exposure	Unadjusted risk	p value	Adjusted risk	p value
All-cause mortality				
Periodontitis	0.48 (0.35-0.65)	0.00	1.11 (0.68-1.82)	0.66
Cardiovascular mortality				
Periodontitis	0.65 (0.42-1.02)	0.06	2.20 (0.94-5.11)	0.07

Conclusion Contrary to data in the general population, periodontitis may not be strongly associated with survival in people treated with hemodialysis, due to other competing causes of poor outcomes that are not present in the general population. ORALD follow up will be completed by end of 2014.

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