

Periodontal Disease and Ischemic Stroke

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To the Editor:

We read with interest the article by Lockhart *et al* concerning periodontal disease (PD) and atherosclerotic vascular disease (ASVD).¹ As the authors state, PD is associated with ASVD independent of known confounders. They have summarized the studies that examined stroke as the dependent variable in Table 6. In depicting these studies it must be pointed out that several of these studies combined ischemic and hemorrhagic stroke as a composite outcome. Hemorrhagic stroke, which is pathophysiologically distinct from ischemic stroke, is not considered as an ASVD and may not be included in this data analysis. Eliminating studies that use only a composite definition of stroke, there are two cohort, two case-control and one cross sectional study) that have specifically looked at ischemic stroke as the dependent variable. All of these studies show significant independent associations between PD and ischemic stroke. Studies have shown that PD appears to bear stronger association with stroke than coronary heart disease.² None of these studies have determined the etiological ischemic stroke sub-types using the standardized TOAST classification.³ Among the TOAST ischemic stroke sub-types, only large artery atherothrombosis is clearly identified as an ASVD.

Lockhart *et al* also conclude that the studies in general do not support the contention that therapeutic periodontal interventions prevent heart disease or stroke or modify the clinical course of ASVD. We agree that there is no evidence that periodontal treatment prevents heart disease or stroke; because, to date no randomized clinical trials (RCT) have investigated the role of therapeutic periodontal interventions in the prevention of ischemic stroke. The absence of treatment data is clearly a limitation in the interpretation of the association findings. The strength of the association, and the potential for healthcare benefits, both support the need to conduct a RCT investigating the role of periodontal intervention on stroke outcomes.

Reference:

1. Lockhart PB, Bolger AF, Papapanou PN, Osinbowale O, Trevisan M, Levison ME, Taubert KA, Newburger JW, Gornik HL, Gewitz MH, Wilson WR, Smith SC Jr, Baddour LM; on behalf of the American Heart Association Rheumatic Fever, Endocarditis, and Kawasaki Disease Committee of the Council on Cardiovascular Disease in the Young, Council on Epidemiology and Prevention, Council on Peripheral Vascular Disease, and Council on Circulation. Periodontal Disease and Atherosclerotic Vascular Disease: Does the Evidence

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2. Beck JD, Offenbacher S. Systemic effects of periodontitis: epidemiology of periodontal disease and cardiovascular disease. *J Periodontol* 2005;76:2089-2100.
3. Adams HP, Bendixen BH, Jap Kappelle L, Biller J, Love BB, Gordon DL, Marsh EE, and the TOAST Investigators. Classification of subtypes of acute ischemic stroke: Definitions for use in a multicenter clinical trial. *Stroke*. 1993; 24:35-41.