Reviewer’s report

Title: Periodontal infection as a model for studying infectious etiologies of cardiovascular disease: evaluating clinical periodontal measures as surrogates for bacterial exposure. The Oral Infections and Vascular Disease Epidemiology Study (INVEST).

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Reviewer: philippe Hujoel

Reviewer’s report:

This cross-sectional study examined patients of the INVEST study. Four bacteria are defined as being the etiologic burden and correlated with clinical periodontal parameters. The clinical parameters that show the highest correlation coefficients with the defined etiologic burden are then suggested to be the primary exposure variables for cardiovascular disease studies.

The definition of the "etiologic burden" is arbitrary and creates a circular argument. What is the evidence that these bacteria represent the etiologic burden for either periodontal disease or CVD? The authors indicate that this is based on "previous research". Evidence could be presented that this "etiologic burden" is indeed related to periodontal disease in the INVEST study after one takes into account smoking and blood glucose metabolism. This would offer weak evidence, but would be better than evidence. Many systematic reviews have indicated that factors such as smoking and diabetes are etiologically related to both periodontal disease and CVD and this information is not included in the analyses of this manuscript.

Etiologies of disease are not defined but explored with epidemiology and confirmed by RCTs.

Level of interest: An article of limited interest

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

No conflicts of interest