Letter by Gavriilaki et al Regarding Article, “Bacterial Signatures in Thrombus Aspirates of Patients With Myocardial Infarction”

To the Editor:

We read with great interest the important study by Pessi et al,1 which deals with the controversial issue of bacterial involvement in atherosclerosis and cardiovascular disease. This well-conducted study documents the presence of oral bacteria in thrombus aspirates of patients with ST-segment elevation myocardial infarction. Beyond the limitations of the study already mentioned by the authors, however, we believe that some issues need to be further clarified.

First, a large number of seroepidemiological, histopathological, molecular, and animal studies have shown that *Chlamydia pneumoniae* contributes to atherosclerosis by direct and indirect mechanisms. *C pneumoniae* DNA has been detected within atherosclerotic plaques in a number of studies.2 Thus, the negative result of the present study needs to be addressed and clarified by the authors.

Second, the notion of aggregate pathogen burden, which is now widely accepted as an explanation for the infection hypothesis,3 is totally ignored by the authors. Beyond *C pneumoniae* and periodontal pathogens, a large number of microorganisms have also been implicated in the atherogenic process (*Helicobacter pylori*, cytomegalovirus, herpes simplex virus, Epstein-Barr virus, *Haemophilus influenzae*, *Mycoplasma pneumoniae*, influenza A virus, hepatitis C virus, human immunodeficiency virus, and others).4 As a result, it would be interesting to assess the coexistence of multiple infectious agents that have been linked to atherosclerosis to better determine the role of periodontal bacteria.

Third, and most importantly, the cross-sectional nature of the present study limits its clinical usefulness. Thus, prospective studies evaluating a possible preventive role of dental care improvements are warranted. Furthermore, when the failure of the antibiotic trials in the field is considered, which was primarily attributable to the lack of proper design and understanding of the concept of pathogen burden, as well as the possible therapeutic role of antibiotics/antivirals, the need for a more fruitful therapeutic approach is compelling.

Disclosures

None.

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References


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