Reviewer’s report

Title: Prevalence of systemic immunoreactivity to Aggregatibacter actinomycetemcomitans leukotoxin in relation to the incidence of myocardial infarction

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Reviewer: S K

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In Johansson et al. the authors wish to determine if there is a correlation between the presence of anti-leukotoxin antibody and the incidence of myocardial infarction. While the authors indicate the reason for looking for leukotoxin, it appears more logical to try and detect the antibody to the bacterium, A. actinomycetemcomitans, or additional virulence factors, since one virulence factor will limit their conclusions. Presence of the bacterium may be a better predictor of inflammatory disease. Specific comments follow:

Minor Essential Revisions

1) Figure 2 is missing. There appears to be a repeat of Figure 3.

2) They note in the Discussion that the high prevalence of subjects with leukotoxin was in line with other studies. This is an important point, and they should at least summarize what the other studies found instead of just referencing it.

3) They should clarify what they mean by using HL-60 cells instead of PMNs changed the sensitivity of the assay.

4) It is not clear how they can conclude that the “neutralization” activity is solely due to antibody to the toxin. There are other factors in plasma, such as proteases, serum proteins, that can inactivate the toxin or bind to it. Thus, they need to consider that patients may have different levels of proteases or other factors that could affect the activity of the toxin. Showing western blot data with at least some of the samples to demonstrate a correlation between neutralizing ability and anti-leukotoxin antibody would have been much more convincing. Indeed, stability of proteins in plasma varies from one individual to another.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

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

Declaration of competing interests:

I declare that I have no competing interests