Title: Colonic Epithelial Telomere Length and Oxidative DNA Damage in Type 2 Diabetes.

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Reviewer: Muthuswamy Balasubramanyam

Reviewer's report:

Re: 'Colonic Epithelial Telomere Length and Oxidative DNA Damage in Type 2 Diabetes.'

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BMC Endocrine Disorders

Research article

The significance of this study is that the authors measured the telomere length and oxidative DNA damage in the colonic epithelium in type 2 diabetics. As claimed by the authors, the T2DM group was selected to limit confounding by variables that influence the risk of colorectal cancer such as race, age, smoking, polyps and inflammatory bowel disease. The presentation and discussion of the manuscript needs a thorough revision.

Comments:

1. There are accumulating evidence from the literature that there is association of telomere shortening and oxidative stress in relation to poor glycemic control. A close observation on the results of the manuscript demonstrates the existence of good glycemic control in the study patients (HbA1c = 6.9). Obviously, under the influence of good glycemic status, one would be wonder to expect increased oxidative DNA damage and telomere shortening (This is what the essence of the manuscript, indeed).

2. Secondly, out of 10 patients, in addition to glucose-lowering agents, 9 used statin, 4 used ACE inhibitors and aspirin was consumed by 6 patients. As agreed upon by the authors, these agents tend to have protective effects on telomere length, inflammation and oxidative stress. In this context, authors should refer and include the clinical benefit and telomere length maintenance by statins from the WOSCOPS study (Brouilette et al 2007 Lancet). Therefore, in the presence of good glycemic control, blood pressure and lipid control, there is a logistic explanation of lack of telomere shortening or oxidative DNA damage.

3. By the bye, what is the lipid status of the study subjects?

4. There is a glaring omission of ref: Adaikalokoteswari et al 2007 (Atherosclerosis).

5. In general, compared to men, women tend to have longer telomeres. In this
study there were 7 women in control group compared to 2 in diabetic group. Would this be a confounding factor in mean telomere length?

6. How authors would defend their study with 32 subjects while there own data analysis and power calculations demand a total of 40 subjects for the study?

7. It is suggested that the title of the manuscript may be changed as: “Lack of association of colonic epithelium telomere length and oxidative DNA damage in Type 2 diabetes under good metabolic control” and accordingly highlight this in the abstract and discussion segments.

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

'I declare that I have no competing interests'