Author’s response to reviews

Title: Glycated hemoglobin predicts coronary artery disease in non-diabetic adults

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Author’s response to reviews:

Dear Dr. Fitzpatrick,

We thank you greatly for giving us the opportunity to revise and improve our research. We have responded to the reviewer’s comments, have revised the manuscript accordingly, and are resubmitting the revised manuscript (Manuscript ID: BCAR-D-19-00119R1) entitled “Glycated hemoglobin predicts coronary artery disease in non-diabetic adults.”

We thank the reviewers for their valuable feedback and comments, which have enriched the revised manuscript. Our responses are enumerated below, and the revised text in the manuscript is marked in yellow.

Sincerely

Mohammed Ewid, MBBS, MSC, MD
Clinical Science Department, College of Medicine,
Response to Reviewer’s comments

(1) small sample size and no follow-up studies should be more thoroughly addressed as the limitation and future direction in the discussion section.

RESPONSE: We have added these limitations and provided specific recommendations for future studies in the discussion section.

(2) the significance of sub-threshold level of HbA1c in pre-diabetic condition for prediction of cardiovascular disorders shall be more elaborated in the discussion to help reader understand the background better.

RESPONSE: We have added text in the discussion section that explains the importance of HbA1c in the pre-diabetic stage and its subsequent relationship with the development of cardiovascular diseases. We have also cited a recent study that supports this notion.

(3) what is the co-relation of HbA1c and other biomarkers of CAD? for example, the lipid profiles from the patients since authors have obtained the data in the method section.

RESPONSE: We have added a description of the co-relation between HbA1c and other risk factors of CAD in the results section. We found that HbA1c was not significantly correlated with CVD risk factors like age, systemic hypertension, or serum cholesterol, and we found it had only a mild correlation with BMI ($0.4$, P$<0.05$). This could be attributed to the low risk profile of the participants.

(4) it will be better to have the quantitative data for % coronary stenosis from CCTA instead of five descriptive categories. The correlation between HbA1c and % coronary stenosis will make the data more evident. The method/equation can be referred to the publication: Medicine (Baltimore). 2015 Dec; 94(48): e2148. Published online 2015 Dec 7. doi:10.1097/MD.0000000000002148, Sun et al Coronary CT Angiography in Heavily Calcified Coronary Arteries: Improvement of Coronary Lumen Visualization and Coronary Stenosis Assessment With Image Post processing Methods.

RESPONSE: We have conducted a new analysis that assessed the correlation between HbA1c and percent of coronary artery stenosis. Accordingly, we have revised the methods section, have added this new analysis to the results section, and have cited the reference suggested by the
reviewer. The new analysis showed a moderate correlation between HbA1c and percent of coronary artery stenosis ($r=0.470$, $p<0.051$). However, we have kept the description of patients based on the stenosis severity grades but have removed its correlation data with HbA1c.