Shuqian Liu et.al., J Diabetes Metab 2018, Volume 9
DOI: 10.4172/2155-6156-C3-085

Comparison of hemoglobin glycation index derived from different study population

Shuqian Liu[1], James Hempe[2], Vivian Fonseca[1] and Lizheng Shi[1]
[1]Tulane University, USA
[2]LSU Health Sciences Center New Orleans, USA

Studies show that many diabetes patients have consistently lower or higher than average HbA1c levels compared to other patients with similar blood glucose concentrations. Biological variation in HbA1c, estimated as the hemoglobin glycation index (HGI, HGI=observed HbA1c - predicted HbA1c) measures variation in HbA1c due to factors other than blood glucose such as race, age, diabetes duration and comorbidities. It had been shown that, diabetes patients with a high HGI had greater risk for micro- and macro-vascular complications. This study aims to compare HGI derived from different study populations to further understand HGI as a clinical biomarker of diabetes complications. Predicted HbA1c were calculated for each subject by inserting fasting plasma glucose (FPG) into linear regression equations for HbA1c vs. FPG. The linear regression equations were very different in our comparison of diabetes patients participating in the different study cohorts. The assessment of the slopes and intercepts of the linear regression equations strongly suggest that ACCORD is a significant outlier because the study population consisted of elderly, long-standing diabetes patients with multiple CVD complications, while other cohorts were relatively younger, shorter diabetes duration and less CVD. Further investigation is needed to explore the trait of HGI.

Biography

Shuqian Liu is a trained Physician in China and completed her Postdoctoral studies from Tulane University, School of Medicine in 2017. She has published 13 papers in peer reviewed journals. Her research interest is diabetes and cardiovascular diseases using data from clinical trial, population studies, national survey data and electronic medical record data.

sliu9@tulane.edu

Notes: