RESPONSE TO COMMENT ON GAN ET AL.

Efficacy of Modern Diabetes Treatments DPP-4i, SGLT-2i, and GLP-1RA in White and Asian Patients With Diabetes: A Systematic Review and Meta-analysis of Randomized Controlled Trials. Diabetes Care 2020;43:1948–1957

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We would like to thank Singh et al. (1) for their correspondence, which makes some important points regarding the prescribing of sodium–glucose cotransporter 2 inhibitors (SGLT-2i) and glucagon-like peptide 1 receptor agonists (GLP-1RA) in Asian patients with type 2 diabetes.

We performed a systematic review and meta-analysis to assess the impact of ethnicity on the glucose-lowering efficacy of relatively newer antihyperglycemic agents SGLT-2i, GLP-1RA, and dipeptidyl peptidase 4 inhibitors (DPP-4i) using previously published evidence from randomized clinical trials (2). Careful reading of our article will reveal that we do not compare the drugs, nor do we infer that one drug class is better than another, but focus on the difference in glycemic response between Asian and White participants for each of the drug groups.

We thank Singh et al. for pointing out the previous meta-analysis by Cai et al. (3) that analyzed the effects of SGLT-2i and showed no significant difference between the Asian and the non-Asian group. Our study included randomized clinical trials with study duration >24 weeks and a sensitivity analysis with study duration >12 weeks. As Singh et al. correctly pointed out, our results are not in line with Cai et al., and this difference could be because of the study selection criteria for the two studies (>50% in Asian and non-Asian group in Cai et al. vs. >70% Asian or White in Gan et al. with >50 patients in each study arm). We prespecified what we considered to be a stricter definition of Asian and White to enable comparison of groups that were largely Asian with those that were largely White. We feel that use of a 50% cutoff does not effectively enable an ethnicity-specific comparison.

The authors point out that Cai et al. reported a significant increase in ketosis in Asian participants on SGLT-2i. It is worth mentioning here that due to the lack of sufficient data from the non-Asian studies included by Cai et al., comparison between two populations on the risk of ketosis could not be carried out. It was because of this lack of data that we did not attempt to compare SGLT-2i side effects, where more studies are clearly needed.

Finally, our study was focused on HbA_{1c} efficacy rather than cardiovascular outcomes of these drugs, but we agree with Singh et al. that previous studies suggest the cardiovascular benefits of GLP-1RA are more pronounced than those of SGLT-2i in Asians (4,5). While SGLT2i may have better glycemic efficacy for Asians than Whites and there is no clear benefit for Asians compared with Whites with GLP-1RA, this does not mean that SGLT2i should be considered in place of GLP-1RA where there are other effects such as cardiovascular risk to take into consideration.

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