

0018

Sitagliptin on carotid intima-media thickness in type 2 diabetes and hyperuricemia patients: A subgroup analysis of the PROLOGUE study

Yipin Zhao, Zebin Lin, Qingwei Chen

The Second Affiliated Hospital of Chongqing Medical University

Abstract

Background and Aims

Studies have shown that dipeptidyl peptidase-4 (DDP-4) inhibitors have anti-atherosclerotic effects. However, in the PROLOGUE study, sitagliptin failed to slow the progression of carotid intima-media thickness (CIMT) relative to conventional therapy. We conducted this post hoc analysis of the PROLOGUE study and compared the effects of sitagliptin and conventional therapy on changes in CIMT in subgroups with or without hyperuricemia.

Methods

The PROLOGUE study was a randomized controlled trial of 442 patients with T2DM. Patients were randomized to receive sitagliptin added therapy or conventional therapy. Based on the serum uric acid levels of all study populations in the PROLOGUE study, we divided them into hyperuricemia subgroup (n=104) and non-hyperuricemia subgroup (n=331). The primary outcome was changed in carotid intima-media thickness (CIMT) parameters compared with baseline during the 24 months treatment period.

Results

In the hyperuricemia subgroup, compared to the conventional therapy group, the changes in the mean internal carotid artery (ICA) -IMT and max ICA-IMT at 24th month was significantly lower in the sitagliptin group [-0.233 mm, 95% CI (-0.419 to 0.046), p=0.015 and -0.325 mm, 95% CI (-0.583 to -0.068), p=0.014], although there was no significant difference in the common carotid artery CIMT.

Conclusion

The results of our analysis indicated that sitagliptin attenuated the progression of CIMT than conventional therapy in T2DM and hyperuricemia patients.

Keywords: Sitagliptin; Intima-media thickness; PROLOGUE study; Type 2 diabetes mellitus; Hyperuricemia

Abbreviations:

Funding and Conflicts of Interest

This study was supported by the National Natural Science Foundation of China (Grant No. 31871182). The authors declared that there is no conflict of interest.