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Aglycin and Vglycin, a new generation peptide drug for treatment of T2D

Zheng-Wang Chen^{1,2}, Ping Zhang¹, Xue-Jun Zhang¹, Yu-Xing Tong² and Hua Jiang²

¹Shan Dong Tianjiu Biotech Co. LTD, China

²Huazhong University of Science and Technology, P. R. China

We have previously reported that the bioactive peptide aglycin regulates glucose homeostasis in Type 2 diabetic (T2D) mice by the process of activating Insulin Receptor/Insulin Receptor Substrate 1 Pathway (IR/IRS1 P). Furthermore, we have reported that the bioactive peptide vglycin, a homologous peptide of aglycin, normalizes fasting glucose and restores impaired pancreatic function in T2D Wistar rats. Both peptides aglycin and vglycin, consisted of 37 amino acid residues respectively and share 35 residues identically. In particular, the 6 cystines are located at the same sites and constitute the structure domain "cystine knot" which can resist hydrolysis from proteases in the digestive tract. Recently, we have successfully conducted the toxicity tests with the peptides, aglycin and vglycin, in rats and mice respectively. We have also determined their effectiveness in 107 volunteers with Diabetes and preDiabetes. Our findings reveal that the peptides aglycin or vglycin take a crucial role in the prevention and treatment of Diabetes. We will report these results in the Diabetic Medications-2015 conference of USA.

zwchen@mail.hust.edu.cn

A systematic review and meta-analysis of self-management interventions in Type 2 diabetic patients with poor glycaemic control

Li Cheng¹, Janet Wing¹, Kai-chow Choi¹, Sek-ying Chair¹ and Xiao-mei Li²

¹The Chinese University of Hong Kong, China

²Xi'an Jiaotong University, China

Objective: This systematic review aimed to synthesize the best available evidence of self-management interventions to determine their efficacy in patients with poorly controlled Type 2 Diabetes.

Methods: Major English and Chinese electronic databases were searched upto Dec 2014 for randomized controlled trials of self-management interventions for patients with poor glycaemic control (HbA1c > 7.5% (58 mmol/mol)). Two authors independently assessed the studies eligibility and extracted data by using a standard form.

Results: Totally seventeen trials with 3211 participants with poorly controlled Type 2 Diabetes were included in the review. Meta-analysis showed that self-management interventions had beneficial effect on HbA1c in all short-term [mean difference (MD) -0.42% (-4.6 mmol/mol) (95% CI: -0.63, -0.20%)], intermediate-term [MD: -0.44% (-4.8 mmol/mol) (95% CI: -0.74, -0.14%)] and long-term [MD: -0.45% (-4.9mmol/mol) (95% CI: -0.66, -0.23%)]. Further subgroup analyses indicated the pooled effects were more desirable in studies delivered in weekly session, with duration of intervention less than 6 months and using behavioral approach.

Conclusions: Type 2 Diabetes patients with poor glycaemic control could benefit from self-management interventions.

Practice Implications: The need for more effective interventions for these vulnerable patients remains urgent. There is also a clear need to establish knowledge about the mechanisms of the beneficial approaches and ingredients for patients with poor glycaemic control.

lilycheng@cuhk.edu.hk