

12th International Conferences on **Childhood Obesity and Nutrition**
&
3rd World Congress on **Diabetes and Obesity**

March 18-19, 2019 | Rome, Italy

Glucagon-like peptide-1 promotes α to β cell Trans-differentiation in the absence of MafA

Chuan Zhang

Second Hospital of Jilin University, China

Statement of the Problem: Diabetes is a chronic disease caused by the relative or absolute lack of functional pancreatic β cells and is characterized by chronic hyperglycemia. Type 2 diabetes islets exhibit worse glucose-stimulated insulin secretion than normal islets and a decrease in MafA expression. Researchers have reported that GLP-1 plays important roles in the differentiation and regeneration of pancreatic β cells. However, this perspective that GLP-1 can play an important role in α cell trans-differentiation under the condition of MafA gene deletion and can produce new insulin-producing cells has not been previously studied. The purpose of this study is that glucagon-like peptide-1 promotes α to β trans-differentiation in the absence of MafA.

Methodology & Theoretical Orientation: Male MafA-deficient mice were injected GLP-1 (50 μ g/kg body weight) daily for 4 weeks. Blood glucose level and body weight were measured, and the numbers of immunofluorescent islet α cells and β cells were analyzed by Immunohistochemical analysis. Real-time quantitative PCR was used to analyze the change in related transcription.

Findings: GLP-1-treated mice exhibit improved blood glucose levels without hypoglycemia. Mice injected with GLP-1 increase β cell regeneration by promoting α - β cell trans-differentiation. GLP-1-treated mice may induce the conversion of α cells into β cells by inducing PDX-1 production.

Conclusion & Significance: GLP-1 can reduce fasting blood glucose, decrease body weight, increase β cell regeneration by promoting α to β cell trans-differentiation. This research provides a new incisive point for the treatment of diabetes mellitus and provides the theoretical and experimental bases for treatment of diabetic β cell failure.

Biography

Chuan Zhang has her expertise in evaluation and passion in improving the diabetes and Obesity. She has been engaged in clinical and scientific research for more than 30 years, and she tries to combine the knowledge and technology she has learned in Japan with his clinical work. She has designed this experiment after years of experience in research, evaluation, teaching and administration both in hospital and education institutions. This research provides a new incisive point for the treatment of diabetes mellitus and provides the theoretical and experimental bases for treatment of diabetic β cell failure.

wang93@sina.com

Notes: