Kyung-A Hwang, J Obes Wt Loss Ther 2012, 2:9
http://dx.doi.org/10.4172/2165-7904.S1.006

OMICS Group Conferences
Accelerating Scientific Discovery

International Conference and Exhibition on
Obesity & Weight Management

December 3-5, 2012 DoubleTree by Hilton Philadelphia, USA

Oral administration of insulin-like growth factor-I from colostral whey reduces blood glucose in STZ induced diabetic mice

Kyung-A Hwang
National Academy of Agricultural Science, Republic of Korea

Of the people diagnosed with type II diabetes, over 80 percent are also diagnosed as obese. This fact provides an interesting clue to the link between diabetes and obesity. Understanding what causes the disease will hopefully allow us to prevent diabetes and obesity in the future. So, we are interested to explore effectively natural products as potential treatments for diabetes and obesity simultaneously.

The aim of the present study was to investigate the effects of oral administration of the insulin-like growth factor-I-rich fraction (IGF-I-RF) from bovine colostral whey on the regulation of blood glucose levels in streptozotocin (STZ)-induced diabetic mice. We obtained a peptide fraction containing IGF-I from colostrum within 24 h after parturition by using ultrafiltration. The blood glucose levels of STZ-induced diabetic mice fed with IGF-I-RF were significantly reduced by 33% at 4 weeks. And we evaluated the effects of the IGF-I-RF on blood insulin and tissue TAG levels in the STZ-induced diabetic group. In the result, blood insulin levels significantly increased in the IGF-I-RF group compare to the control group. In addition, intracellular concentrations of TAG decreased by 16% in the liver of IGF-I-RF treated mice compared with those in STZ-induced diabetic mice.

The body weights of STZ-induced diabetic mice increased following the oral administration of the IGF-I RF. The kidney and liver weights of STZ-induced diabetic mice decreased significantly following the administration of the IGF-I-RF. The present results indicate that the IGF-I-RF obtained from colostrum could be a useful component for an alternative therapeutic modality for the treatment of diabetes and obesity in insulin-resistant patients.

Biography

Kyung-A Hwang completed her PhD at 2004 year from Sungkyunkwan University in Republic of Korea and Postdoctoral Fellow studies from Yale University School of Medicine. Currently, she has been working in Functional Food and Nutrition Division, National Academy of Agricultural Science, senior researcher. Dr. Hwang's main area of research is the correlation of obesity, diabetes and the immune system. Currently, she is focusing on the development of new molecular bio-markers for obesity-related. She has published various renowned journals such as Journal of Immunology(2007, 2008), Critical Reviews in Immunology(2008), Mechanisms of ageing development(2009), Food Chemistry(2011) etc.

kah366@korea.kr