The Effects of Electroacupuncture and Local Somatothermal Stimulation (LSTS) in Mice Model of Streptozotocin-Induced Diabetes Mellitus

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Background

Acupuncture and moxibustion are effective treatments with the chronic deficient conditions in traditional Chinese medicine. Because the disease progression in diabetes, patients are getting weak and fatigue. Electroacupuncture (EA) has been investigated in lowering plasma glucose in rat and mice diabetes models. But only a few studies were published in plasma glucose control by Local somatothermal stimulation (LSTS) or moxibustion. This preliminary project is to assess the hypoglycemic effect and body weight control in experimental diabetes induced by streptozotocin (STZ) for 3 weeks EA and LSTS.

Materials and Methods

Male C57BL/6 mice were intraperitoneally injected with STZ. EA was applied for 30 minute to Zhongwan (CV-12) and Guanyuan (CV-4) acupoints. LSTS was caused by indirect heating by heating rod over and above the CV-12 acupoint. The control group did not receive any intervention except for the anesthesia. The EA and LSTS treatment were carried out 3 times a week for 3 weeks. Plasma concentration of glucose and body weight was measured prior to the interventions after 6 hours fasting.

Results

After 3 weeks of interventions, we observed the increase in body weight with LSTS compared with both EA and diabetic groups. But a slight decrease in plasma glucose was noted, it did not reach the significant statistic difference.

Discussion

Previous studies indicate the EA can lower plasma glucose concentrations in diabetic rats and mice. But there may be some potential mechanisms are not yet been found in diabetes mellitus. Thus, we speculate that LSTS might be an effective alternative treatment in diabetes control.

Key Words

Acupuncture, Moxibustion, Local somatothermal stimulation, Diabetes mellitus