

The Effects of Acupoint Catgut Embedding for Weight Control in Mice Model

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Abstract : Obesity (OB) is a hazardous global health problem that has been increasing in prevalence, more severely in last decade. It is the mainly resultant from the imbalance between food consumption and energy expenditure, which is concordant with a modern lifestyle, implying an increase in calories with poorer quality of food intake accompanied by a decrease in physical activities. Obesity does not concern the appearance only but is also a major factor contributing to poor physiology, psychology, society and economic issues. Moreover, OB induces low-grade inflammation in the body through the regulatory effect it enacts on the adipocyte function. Various alternative treatments were investigated for body weight control, including Acupoint Catgut Embedding (ACE). ACE is the implantation of absorbable catgut sutures at specific acupoints, displaying durable and potent stimulation and thereby reducing the treatment frequency. Our study utilized a mouse model to exclude any psychological factors of OB and ACE treatment. High-fat diet and body weight were measured once a week before subjects in ACE and Sham group received the ACE treatment or placebo treatment. We hypothesized that ACE can control body weight through the interaction of the TRPV1 pathways, as TRPV1 accordingly responds to inflammatory factors. The results of body weight variation show a significant decrease in body weight in ACE group compared with the baseline of control and Sham group. Meanwhile, converse results were explored in TRPV1 knockout mice, where a significant maintenance of normal body weight throughout the experiment period was observed. There was no significant difference in food consumption of each group. These finding indicated that TRPV1 pathways and its associated pathways may be involved in the maintenance of body weight, which can be controlled by ACE treatment of genetic manipulation.

Keywords : acupoint catgut embedding, obesity, hypothalamus, TRPV1

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