

4. Metabolism and Endocrine Diseases

Reference

Mukai Y, Tsuneya Y, Hattori T. Auricular acupuncture for obesity – Concerning the significance of dermal points. *Zen Nihon Shinkyu Gakkaishi (Journal of the Japan Society of Acupuncture and Moxibustion)* 1983; 32(3): 226–32 (in Japanese with English abstract). Ichushi Web ID: 1984047876

1. Objectives

To analyze whether electrodermal points in the ear are functional units.

2. Design

Randomized controlled trial (RCT).

3. Setting

Third Internal Medicine Department, Faculty of Medicine, Mie University, Mie, Japan.

4. Participants

Fifty outpatients with simple obesity (120% or more of ideal weight). Patients with fasting blood sugar over 110 mg/dl, and patients receiving drug therapy for obesity complications were excluded.

5. Intervention

Arm 1: Electrodermal point group. Two intradermal needles each were inserted to a depth of approximately 1 mm at two locations corresponding to electrodermal points (four needles in total), fixed in place with intradermal needle tape, and replaced every week. Treatment continued for 4 weeks (n=25).

Arm 2: Non-electrodermal point group. Same treatment as Arm 1, except the needle insertion points were non-electrodermal points (n=25).

6. Main outcome measures

Changes in food intake, satiety, hunger sensation, and water intake, and changes in fasting blood sugar level, free fatty acids level, insulin level, serum Na level, and serum osmolality.

7. Main results

In Arm 1, food intake decreased significantly ($P<0.01$), satiety increased ($P<0.05$), hunger decreased ($P<0.05$), and water intake tended to decrease. In Arms 1 and 2, fasting blood sugar did decrease significantly at several time points. Insulin level, serum Na level ($P<0.05$), and serum osmolality ($P<0.005$) decreased significantly in Arm 1. The decrease in Na level and osmolality persisted into the fourth week. The mean difference in osmolality values showed a significant difference ($P<0.05$). No significant changes were observed in Arm 2.

8. Conclusions

Lung-area electrodermal points are functional units.

9. From acupuncture and moxibustion medicine perspective

Locations for retention of intradermal needles were selected from a neuroanatomy perspective, and determined by impedance measurements.

10. Safety assessment in the article

Not mentioned.

11. Abstractor's comments

This is a clinical study of great interest. It verified that electrodermal points are functional units (acupuncture points) based on the differences in the effects of stimulation at electrodermal points and non-electrodermal points in a specific area (i.e., the lung area in the cavum conchae through which the vagus nerve passes). Notably, the study was conducted in clinic patients with obesity and outcome measures included objective measures as well as subjective measures. Table 2 shows the difference in free fatty acid values (one of the outcome measures); however, the authors do not mention this result in the body of the article. The study is multi-faceted, which complicates the data analysis. The study is not double masked. It would have been preferable to randomize in a double blind manner and include a sham needle treatment, although that may be difficult for intradermal needles. Of the 50 subjects, 44 were female and 6 male, so it is hoped that future studies investigate whether effects are gender neutral.

12. Abstractor and date

Okada A, Kaneko Y, 12 December 2010, Kawakita K, Takahashi N, 25 December 2010.