4. Metabolism and Endocrine Diseases

Reference

Mukaino Y, Arakawa K. Change of taste by ear acupuncture in simple obese patients. *Zen Nihon Shinkyu Gakkai Zasshi* (*Journal of the Japan Society of Acupuncture and Moxibustion*) 1985; 34(3,4): 211–6 (in Japanese with English abstract). Ichushi Web ID: 1986071708

1. Objectives

To evaluate the effect of ear acupuncture on taste and the difference between the effects of left-side and right-side acupuncture.

2. Design

Randomized controlled trial (RCT).

3. Setting

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4. Participants

Sixty-three outpatients aged 20–60 years with simple obesity (body weight, 110% of the ideal weight or more). Patients taking medications for obesity complications or with fasting blood sugar over 110 mg/dL and symptomatic obesity were excluded.

5. Intervention

Method A
Arm 1: Bilateral lung point group. Two intradermal needles were each inserted to a depth of approximately 1 mm at the lung point on both sides and retained in place with sticking plaster. The needles were replaced every week. Treatment continued for four weeks (n=19).
Arm 2: Right cardia/lung point group. Same treatment as Arm 1, at the right cardia point and right lung point (n=20).

Method B
Arm 3: Right cardia/lung point group. Same treatment as Arm 1, at the right cardia point and right lung point (n=13).
Arm 4: Left cardia/lung point group. Same treatment as Arm 1, at the left cardia point and left lung point (n=11).

6. Main outcome measures

Appetite suppression effects and changes in body weight and taste. (Dietary intake, appetite, and satiety were assessed by a daily questionnaire and rated on a 6–7-point scale. Body weight was measured every week. Taste was examined before treatment, and 1 and 4 weeks after treatment.)

7. Main results

Method A: Appetite was suppressed in 47.4% of patients in Arm 1 and 25% of patients in Arm 2. Mean body weight decrease was greater in Arm 1 (1.7±0.2 kg compared to 1.5±0.3 kg), but there was no significant between-group difference. With the substantial appetite suppression effect and body weight decrease, salt-taste sensitivity increased in both Arm 1 and Arm 2.

Method B: There was a significant positive correlation (r=0.794, $P<0.01$) in Arm 3 between salt-taste threshold and body weight decrease. The same trend was observed in Arm 4 (r=0.536, $P<0.1$). There was a significant difference between the slopes of the regression lines in Arm 3 and Arm 4 but no difference in variance between the two groups. The mean body weight decrease for the four weeks was 1.3 kg in Arm 3 and 0.8 kg in Arm 4.

8. Conclusions

Ear acupuncture increases salt-taste sensitivity. Right-side stimulation is more effective.

9. From acupuncture and moxibustion medicine perspective

Locations for retention of intradermal needles were determined with an Ishikawa dermometer (PD-1).

10. Safety assessment in the article

Not mentioned.

11. Abstractor's comments

This study examined the effect of ear acupuncture on taste and the difference between the effects of left-side and right-side acupuncture. It infers a relationship between the afferent stimulation of ear acupuncture and the taste conduction pathway. It is hoped that further examination can clarify whether the glossopharyngeal, vagus, chorda tympani, and greater petrosal nerves, which conduct taste impulses, pass through the ear flap, and explain the relation between the afferent stimulation of ear acupuncture and the taste conduction pathway. While the study showed that right-side stimulation was effective, it goes no further than suggesting the possibility that the dominant hemisphere of the brain is involved, and does not explain that mechanism. This is a topic for future investigation, as the authors themselves mention. Neither of the subjects of investigation in this study have been investigated before and the results hold great interest; however, limiting the study to one subject (e.g. mechanism) might have given the study a clearer focus.

The paper also mentions the possibility of applying the treatment to various illnesses, besides obesity, such as hypertension, which are also strongly linked to salt intake. The study has great clinical significance.

12. Abstractor and date

Okada A, Kaneko Y, 27 December 2010, Takahashi N, 11 January 2012.