21. Others

Reference

Wada T, Usuda Y, Fukushima M, et al. Does sole pressure stimulation increase low back skin temperature? Comparison of the effects of sole stimulation with low back stimulation on low back skin temperature*. .*Nihon Shugi Ryoho Gakkai Zasshi* (*The Journal of Japanese Association of Manual Therapy*). 2004; 15(1): 18–22 (in Japanese). Ichushi Web ID 2006259813

1. Objectives

To compare and verify low back skin temperature responses to pressure stimulation at the sole and low back.

2. Design

Crossover randomized controlled trial (RCT–cross over).

3. Setting

Not described, Japan.

4. Participants

Sixteen healthy adult males (mean age 29.9±5.4 years).

5. Intervention

Arm 1: Sole stimulation group (n=16, mean age not specified).

Arm 2: Low back stimulation group (n=16, mean age not specified).

6. Main outcome measures

Infrared thermography, thermocouple.

7. Main results

Right sole stimulation significantly increased skin temperatures of the low back (areas A, B, C; $P<0.05$, or $P<0.01$, or $P<0.001$), buttocks, popliteal area, and sole (left/right) ($P<0.01$ or $P<0.001$, or $P<0.001$,). Low back (medial edges of L5 erector spinae muscles) stimulation significantly increased skin temperatures of the low back (areas A, B, C, D, E; $P<0.05$, or $P<0.01$, or $P<0.001$), buttocks, popliteal area, and sole (left/right; $P<0.01$, or $P<0.001$).

The effect of sole stimulation differed from that of low back stimulation in only two parts of the body: skin temperature in the low back (area E) was significantly increased by low back stimulation, while skin temperature of the left sole (treatment side) was significantly increased by sole stimulation. There was no significant difference in effects on skin temperatures of other parts of the body.

8. Conclusions

Pressure stimulation to the sole and low back increases skin temperature in the low back and leg, not only in the stimulated areas, suggesting that another factor besides the spine has that effect.

9. Safety assessment in the article

Not mentioned.

10. Abstractor's comments

While this trial was conducted according to a systematic protocol, skin temperature increases were observed from the low back to the sole after pressure stimulation at the low back and sole, which suggests the possibility that a systemic response was triggered, and therefore there is a need to measure upper body skin temperature. In addition, outcome measures including autonomic indicators, such as blood flow should be added, if the authors are to observe the specific effects of low back and sole stimulation.

11. Abstractor and date

Ogata A, 17 December 2011.