

## Does auriculotherapy modulate pain threshold?

Stefania Lucia Nori<sup>1</sup>, Letizia Lorusso<sup>1</sup>, Andrea Viggiano<sup>1</sup>

<sup>1</sup>Department of Medicine and Surgery, University of Salerno, Via S Allende 84024 Fisciano, Italy

Antonio Maria Valsalva (1666–1723) wrote the first modern anatomical description of the human ear and in 1717 published the *Aura Humanus Tractatus*, where he describes the treatment of toothache by scarification of antitragus. Auriculotherapy (AT) is a diagnostic and treatment method based on normalizing the body's dysfunction through stimulation of definite points on the ear. Stimulation of a reflex point in the ear seems relieve symptoms of distant pathologies (Gori et al 2007). AT is a treatment diffusing in all over the world, and its patterns follow the principles of Chinese acupuncture, revised and updated, with Chinese and French maps of the ear; the principles of Paul Nogier (the father of Western AT) and also the principles of reflexology basing on somatotopic maps that do not recognize energetic-based stimulation, while just the evocation of a reflex stimulating precise areas of the ear. Today are used for stimulation of ear skin many different tools: finger acupressure, laser, electricity, different types of needles, magnetic balls and seeds (Nogier 1983). In our experiments AT involved the placement of vaccaria seeds on one ear, with two minute pressure and no further manipulation by the patient. The ear point used were fingers, from the French and Chinese charts. Two groups of healthy volunteers (n. = 6 for each group), 19-25 years old, participated to the study. Each subject was asked to perform an auto-algometric test (Viggiano et al., 2009) on three occasions: before, 1 hour after auriculotherapy (or sham-therapy) and 24 hours after auriculotherapy (or sham-therapy). Participants of the first group received a 2 min long session of auriculotherapy, while participants of the second group received a 2 min long session of sham-therapy, consisting of a puncture/massage above the skin of the neck. The auto-algometric test consisted of applying the subject themselves an increasing pressure with the fingertips and finger-backs of four fingers (i.e. eight sites were evaluated) against a round-shaped needle of 1 mm in diameter for two times: until a minimum pain sensation (first time, minimal test) or a maximally tolerable pain sensation were evoked (second time, maximal test). The results showed a significant greater pain threshold in the maximal test at 24 hours after the auriculotherapy compared to sham-therapy. This result indicates that auriculotherapy can increase pain tolerability, rather than affecting the minimal pain threshold.

### References

- [1] Gori et al. (2007) Ear acupuncture in European Traditional Medicine Evidence-Based Complementary and Alternative Medicine. 4, S1, 13-16.
- [2] Viggiano et al. (2009) New and low-cost auto-algometry for screening hypertension-associated hypoalgesia. Pain Pract. 9: 260-265.
- [3] Nogier P. (1983) Auriculotherapy to Auricolomedicine. Sainte-Ruffine, France: Maissonave 1983.

### Keywords

Auto-algometry, auriculotherapy, pain threshold.