



# The therapeutic efficacy of somatic acupuncture is not increased by auriculotherapy: A randomised, blind control study in cervical myofascial pain

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## KEYWORDS

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**Summary** Auriculotherapy (ear acupuncture) is a therapeutic technique in which points on the auricle are stimulated with needles. Usually it is combined with somatic acupuncture because of possible synergy, although the efficacy of this pairing has neither been confirmed nor disproved. The aim of this study was to verify: (1) if somatic acupuncture can reduce myofascial cervical pain; (2) if concomitant auriculotherapy improves the efficacy of somatic acupuncture. A group of 62 patients affected by cervical myofascial pain was randomly divided into two groups of 31. Group A (6 males and 25 females) underwent eight sessions of somatic acupuncture. Group B (7 males and 24 females) underwent eight sessions of somatic acupuncture in the same way as group A, paired with auriculotherapy. Pain was scored using the McGill Pain Questionnaire before and at the end of treatment, and 1 and 3 months later. The results showed that both somatic acupuncture and somatic plus ear acupuncture have a positive effect in reducing pain. The pain intensity score was  $40.70 \pm 17.78$  in group A before therapy and  $13.32 \pm 9.62$  after therapy; in group B it was  $38.90 \pm 15.31$  and  $13.43 \pm 10.96$ . Somatic plus auriculotherapy was therefore not statistically significantly superior to somatic therapy alone in the treatment of cervical myofascial pain.

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## Introduction

The principle of auriculotherapy is based primarily on the somatotopic representation on the

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auricle of several somatic and visceral structures. The existence of this correlation has been suggested by morphological and electrophysiological studies. Morphological changes on the auricle, e.g. telangiectasis, desquamation, pigmentation, erythema and hyperaemia, have been related to chronic organic conditions. Some authors<sup>20,12</sup> observed a lowering of electrical resistance at particular points on the auricle after stimulation of specific body parts, both in animals and man. Oleson et al.<sup>19</sup> evaluated the increased sensitivity to pressure and electrical conductance in certain areas of the auricle in patients afflicted by somatic pain, demonstrating a somatotopic representation of different body areas on the auricle itself. Similar results were obtained on palpation with a pressure detector. These painful points are localised in similar areas in patients with the same disease.<sup>23,5</sup> Indeed, the creation of the microsystem of auriculotherapy was based on this theory<sup>17</sup>: that visceral dysfunction and pain in a particular body structure are detectable on the auricle through an increase in pain sensitivity and electrical conductance in particular areas. Electrical or acupunctural stimulation of these areas leads to a lessening of pain in the corresponding structures of the body.<sup>6,10,18,25</sup>

Auricular stimulation is now often paired with somatic acupuncture in the treatment of painful conditions, a pairing justified by suggestions of greater clinical improvement. However, this hypothesis is yet to be tested in a blind, placebo-controlled clinical trial. The only published observation<sup>15</sup> on the possible benefits of pairing somatic and auricular stimulation found no substantial differences between the two, though the study principally concerned the efficacy of electrical stimulation (transcutaneous electrical nerve stimulation; TENS) and not that of paired somatic and auricular acupoint stimulation.

Our aims here were: (1) to evaluate the analgesic efficacy of somatic acupuncture in the treatment of cervical myofascial pain; (2) to ascertain whether the pairing of somatic acupuncture and auriculotherapy can produce a better clinical result than the use of somatic acupuncture alone.

## Materials and methods

The trial involved 70 patients fulfilling the diagnostic criteria for myofascial cervical pain,<sup>9</sup> chosen from those attending our pain therapy unit over a 12-month period (see 'Exclusion criteria' next). Sixty-two patients (46 women and 16 men, with ages ranging from 25 to 55 years) completed the study; eight dropped out for various reasons

during the trial. All the patients selected were new to acupuncture treatment, as to execute correctly a blind study those who had already undergone acupuncture in the past had to be excluded. Any treatment being given before the trial was suspended, but 1 g paracetamol was permitted in acute episodes of pain. Patients gave their informed consent, and the study was planned according to the suggestions of the Helsinki Declaration. Patients were divided randomly into two groups: group A, somatic acupuncture; group B, somatic acupuncture paired with ear acupuncture.

## Exclusion criteria

- A diagnosis of primary and secondary fibromyalgia;
- Patients with severe systemic illnesses, in particular asthma, emphysema, chronic bronchitis, severe myocardial failure and disturbances of cardiac rhythm under treatment; patients undergoing hypotensive treatment with reserpine or clonidine;
- Radiographic evidence of severe, bridge-like osteophytes; osteoporosis;
- Patients under psychotropic drug treatment (major and minor tranquilisers);
- Patients under benzodiazepine treatment were admitted only if an interruption of treatment for 2 weeks was clinically appropriate;
- Drug and alcohol abuse;
- Patients affected by concomitant central and peripheral neurological illnesses that could interfere with the aim of the study (multiple sclerosis, epilepsy or brain injuries with chronic impairment, polyneuropathies due to diabetes, alcohol, etc. radiculopathy);
- Presence of an adipose panniculus.

## Randomisation

After being accepted for the study, each patient was assigned to one of the two groups using a previously constructed randomisation table. A detailed explanation of the procedure was given, and all the patients were requested to participate, and to have their pain monitored at one and three months after the therapy. Patients were free to drop out of the study at any time. The doctor who carried out the pain measurements did not know to which group the patients belonged.

## Blindness

The diagnostic procedures and acupunctural treatments were carried out by two different doctors;

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