

**S30 - Symposium 30****Acupuncture-induced Mobilization of Stem Cells with Neurogenic Potential in Patients with Spinal Cord Injuries**

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**Abstract**

Spinal cord injuries (SCI) often lead to devastating loss of neurological functions. Among other therapeutic methods, acupuncture is applied to support recovery. In former studies with healthy volunteers, we could show a mobilization of CD133+34- cells, CD133 is described as a marker for multipotent neural stem cells, after acupuncture treatment.

We hypothesized that acupuncture might mobilize CD133+34- cells in patients with SCI.

Four persons with SCI were acupunctured 15 times over a period of eight weeks. Before and after each acupuncture, CD133+34- cells were determined by flow cytometry.

By means of Elisa, we also measured matrix metalloproteinase 9 (MMP-9), suggested to be involved in the mobilization of progenitor cells, and brain-derived neurotrophic factor (BDNF), a neurotrophin regulating neurogenesis.

In patients, motor and sensory functions were assessed by American Spinal Injury Association Impairment Scale (AIS), the quality of life was measured by SF-36.

The number of CD133+CD34- cells in peripheral blood increased gradually over the eight weeks' course of acupuncture treatment, with a concomitant increase of MMP-9 and decrease in BDNF ( $p < 0.05$ ).

Clinically, there was no change in motor function. However, patients felt improvement in their sensory function and SF-36 showed a positive perception of acupuncture treatment ( $p < 0.05$ ).

Our results suggest that acupuncture influences the mobilization of CD133+ CD34- cells in SCI patients. Whether and to what extent acupuncture supports regeneration needs to be verified in future studies.

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**S30 - Symposium 30****Acupuncture on Symptoms and Muscle Function in Delayed-Onset Muscle Soreness**

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**Abstract**

Delayed-onset muscle soreness (DOMS) is a common symptom in people participating in exercise, sport, or recreational physical activities. Several remedies have been proposed to prevent and alleviate DOMS. In 2008 and 2015, two studies have been conducted to investigate the effects of acupuncture on symptoms and muscle function in eccentric exercise-induced DOMS of the biceps brachii muscle. In 2008 a prospective, randomized, controlled, observer and subject-blinded trial was undertaken with 22 healthy subjects (22–30 years; 12 females) being randomly assigned to three treatment groups: real acupuncture (deep needling at classic acupuncture points and tender points;  $n = 7$ ), sham-acupuncture (superficial

needling at non-acupuncture points;  $n = 8$ ), and control ( $n = 7$ ). In 2015, a five-arm randomized controlled study was conducted with 60 subjects (22 females,  $23.6 \pm 2.8$  years). Participants were randomly allocated to needle, laser, sham needle, sham laser acupuncture, and no intervention.

In both cases treatment was applied immediately, 24 and 48 hours after DOMS induction.

The outcome measures included pain perception (visual analogue scale; VAS), mechanical pain threshold (MPT), maximum isometric voluntary force (MIVF) and pressure pain threshold (PPT).

**Results:** In 2008, following nonparametric testing, there were no significant differences between groups in outcome measures at baseline. After 72 hours, pain perception (VAS) was significantly lower in the acupuncture group compared to the sham acupuncture and control subjects. However, the mean MPT and MIVF scores were not significantly different between groups. This led to the conclusion, that acupuncture seemed to have no effects on MPT and muscle function, but reduced perceived pain arising from exercise-induced DOMS.

The more recent results from 2015 indicated that neither verum nor sham interventions significantly improved outcomes within 72 hours when compared with the no treatment control ( $P > 0.05$ ).

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## B1 - Breakfast Symposium 1

### Treatment of Back Pain by Using the Fundamental Nogier Frequencies and Parasite Frequencies

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#### Abstract

Auriculomedicine (AM) is a medical discipline devised by doctor Paul Nogier some 50 years ago. AM is fundamentally related to auriculotherapy. AM viewed as a diagnostic tool uses not only the auricle but also the skin of the whole body.

After having worked on stimulation of the skin by touch than by continuous white and color light, P. Nogier had begun exploring the effect of applying discontinuous light on the pulse reaction.

Working with continuous frequency generator he created new concept of frequency resonance territory which led Nogier to describe a sequences of 7 territories on the ear. Each frequency got letter of the alphabet from A to G frequency and has specific auricle territory called fundamental territory. The frequency diagnosed on a given point is said to be parasite when it is different to the frequency belonging to the territory inside which the point is located.

For example, lumbar spine point is located in a territory normally reacting to the C frequency, the antihelix characteristic of mesodermic structures but if this point reacts also to B frequency than it responding to the criteria of parasite frequency. The parasite frequency also gives the etiology of the lumbar problem.

Treatment is pushing parasite frequency to their own territory. It can repeat a few times until defined the causal point.

This point bearing all seven frequencies. The treatment of this point will be done by running the following seven frequencies: A0, B0, C0, D0, E0, F0, G0.

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## B1 - Breakfast Symposium 1

### Fractals Nature of Acupuncture Channels and the Vacuum Treatment Massage as a Method for Increasing Effectiveness of Acupuncture

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#### Abstract

**Objective:** On the base of researches with biophysical, histological, mathematical modeling etc. from 1982 - the nature of acupuncture channels manifest qualities of typical fractals (self-similarities on different scales). The dynamic of collaterals of acupuncture channels were presented of extremely importance. To control the existence of the collaterals was developed method, oils and device.

