## The influence of Aconitum Napellus versus placebo, on anxiety and salivary cortisol, in stress induced by intense and short term physical effort

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**Background:** Intense and short term physical effort is a stress factor for sedentary persons. The correctly chosen homeopathic remedy, in other words the simillimum, modulates physical, emotional and mental level of the person to whom it was given, therefore also the psycho-emotional state stress-induced. Aconitum Napellus (AN) is characterized by a state of anxiety, anguish of mind and body, fear, physical and mental restlessness.

*Aims*. The objective of the study is to highlight the AN influence on the dynamic of two parameters, anxiety and salivary cortisol, in peri - stress changes induced by intense and short term physical effort, on sedentary subjects.

*Methods:* All chosen subjects (n = 30) had AN recommendation and had voluntary participated, according to the requirements of the study. Stress was represented by an intense and short term physical effort, made with a Monark Ergomedic 839E cycle ergometer. Three groups of subjects were selected, the first, the control group (C), who was not given anything; the second, who received placebo (P); and the third who received AN. Test was made the days after taking P and AN. Analyzed indicators were anxiety and salivary cortisol. Statistical evaluation was made on the basis of Student test.

**Results:** Although the values for anxiety and salivary cortisol were slightly higher on C compared with P, differences between them were not significant. At all peri-stress times, anxiety and salivary cortisol values in C and P were higher than in AN, significant differences being: immediately pre-stress for anxiety; immediately pre-stress and immediately post-stress for salivary cortisol.

**Conclusions:** 1) Influence on anxiety and salivary cortisol was significantly more intense in AN compared to P. 2) Under AN influence, anxiety and salivary cortisol were significantly reduced immediately pre- and post effort. 3) AN significantly influenced more anxiety than salivary cortisol, immediately pre- and post-stres times. 4) AN may be an effective, safe and accessible modulion path for stress caused by intense and short term physical effort, on AN constitutional sedentary persons.

*Keywords:* Stress, Homeopathy, Aconitum Napellus remedy, Anxiety, Salivary cortisol, Physical effort

## Towards an evidence-based homeopathic treatment for PMS

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**Objective:** Homeopathy could offer safe and effective treatment for women with premenstrual syndrome/symptoms (PMS/S). A research program on effectiveness and efficacy was initiated to evaluate a semi-standarised individualised homeopathic treatment of women with PMS/S.

*Methods/Results:* The first step of our research program was to standardise individualised homeopathic treatment, to facilitate clinical research. Therefore, a semi-standardised computerised algorithm was developed and validated for homeopathic treatment of women with PMS/S with 11 medicines. A questionnaire was used to collect the women's keynote symptoms and characteristics for the 11 medicines. The first homeopathic prescription had to be according to the algorithm outcome. At follow-up, the prescription could be changed according to the analysis of the doctor. This semi-standarisation of the treatment minimised variability in prescription between the participating doctors, enabled optimum reproducibility of the treatment, yet respected the individualised approach.

Secondly, the use of this algorithm was evaluated in Dutch homeopathic practice in 38 women with 3 months follow-up. In an extension of this feasibility study, with 9 months follow-up and in a sample of 77 women suffering from PMS/S, we further evaluated the utility of the semistandardised algorithm, measured changes in premenstrual symptom scores and detected possible predictive characteristics. This research was conducted in practices of 20 homeopathic doctors in the Netherlands between 2007-2011. Recruitment in this study proved difficult and the dropout rate was considerable. The algorithm proved useful and effective in daily homeopathic practice. We detected a significant decline in mean PMSsymptom scores over time, especially in women with moderate to severe PMS.

Next, in October 2012 we started an international pragmatic trial to evaluate the feasibility of a larger trial to establish the added value of this homeopathic treatment compared with usual care only. This project is a collaboration between research groups at the Louis Bolk Institute, Driebergen, the Netherlands, the Mid-Sweden University, Sundsvall, Sweden and the Women's Hospital, University of Heidelberg, Germany.

Previously, a double blind randomised placebo controlled pilot study was conducted in Israel on individualised homeopathic treatment for PMS with 5 homeopathic medicines. The homeopathic treatment proved superior to placebo, with significant results. For the