

## EFFECTS OF ELECTROSTIMULATION (VEINOPLUS) ON LOWER LIMBS VENOUS INSUFFICIENCY-RELATED SYMPTOMS DURING PREGNANCY. PRELIMINARY STUDY

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**Objective:** To assess if electrostimulation of lower limbs relieves lower limbs venous insufficiency-related symptoms during pregnancy.

**Patients and methods:** A two-step study was conducted. First, a monocentric prospective preliminary study including 30 pregnant women was conducted to assess the effects of electrostimulation on foetal monitoring and uterine contractions. Then, a multicentric prospective non-randomised study including 58 pregnant women with a gestational age between 23 and 33 weeks of amenorrhoea was conducted to evaluate the electrostimulation treatment. This evaluation was based on a clinical examination performed pre- and post-treatment, a CIVIQ questionnaire filled out pre- and post-treatment and a daily diary filled out by the patient during treatment duration. Treatment duration was 21 days including two daily treatment sequences of 20 min. Three groups of patients were identified based on initial intensity of venous insufficiency-related symptoms (Group 1 minor symptoms, Group 2 moderate symptoms, Group 3 severe symptoms).

**Results:** Preliminary study showed no interference between electrostimulation and foetal cardiac rhythm, uterine contractions and maternal uterine and foetal umbilical arteries. Concerning the evaluation of the electro-stimulation: in Group 1, electro-stimulation significantly reduced heavy legs sensation ( $p < 0,001$ ) and calves pain ( $p = 0,02$ ) between the beginning and the end of the treatment. The four scores calculated with the CIVIQ questionnaire decreased after treatment and a significant reduction was noted for generalised pain feeling ( $p = 0,04$ ) and psychological impact ( $p = 0,03$ ). In group 2, a significant decrease was noted for tiredness ( $p < 0,001$ ), heavy legs sensation ( $p < 0,001$ ), calves pain ( $p < 0,001$ ) and edema ( $p = 0,02$ ) between the beginning and the end of the treatment. The four scores calculated with the CIVIQ questionnaires significantly decrease after 21 days of treatment. In group 3, a significant decrease of heavy legs sensation ( $p = 0,03$ ) and calves and malleoli perimeters ( $p < 0,05$ ) was noted. After 21 days of treatment, the four scores calculated with the CIVIQ questionnaire significantly decrease ( $p < 0,05$ ). When comparing the three groups, beneficial effects of the treatment are most marked in group 2 regarding subjective symptoms, CIVIQ questionnaire scores and leg pain. According to the patients, effectiveness and tolerance of the treatment ranged from good to excellent in the three groups.

### Discussion and conclusion:

Electrostimulation is an effective and well-tolerated treatment of lower limbs venous insufficiency-related symptoms in pregnant women. Its use during pregnancy did not show any effects on foetus and pregnancy.