# Abstract #765 EFFECTIVENESS OF ORIGINAL, INDIVIDUALIZED, LONG TERM, HIGH DOSE ELECTROTHERAPY IN WOMEN WITH INCONTINENCE **AFTER DELIVERY FOR VARIOUS SYMPTOMS.** ERAPI

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## Hypothesis / aims of study

The aim of the study was to assess the effectiveness of individualized, long-term electrotherapy combined with pelvic floor muscles training (PFMT) in a group of postpartum women with symptoms of urinary incontinence (UI). It evaluated the impact on:

reduction of UI, overactive bladder (OAB), nocturia, urgency, and frequency,

- ability of voluntary pelvic floor muscles contraction (VPFMC)
- discomfort related to pelvic organ prolapse (POP),

urethral, bladder, and vaginal sensation, sexual intercourse comfort and peristalsis.

## Study design, materials and methods

In this study, the severity of symptoms was compared at the beginning, during follow-up visits, and at the final visit. Patients' informed consent was obtained. The study involved patients treated in an individual physiotherapy practice carried out in Poland between 2002 and 2012. A total of 97 women aged 20-48 with symptoms of UI after childbirth participated in the study, including: 47 patients who were 2-6 months postpartum, 28 patients who were 7-28 months postpartum, and 22 patients who were 3 to 25 years postpartum (Me = 8.00). The mean birth weight of the last child, given in grams, was 3707.63 (SD = 398.47). Among women who had experienced physiological childbirth, the mean duration of the first stage of labor reported by patients in hours was 8.81 (SD = 10.44), and the second stage was 1.10 (SD = 10.46). Inclusion criteria for the group were: experienced childbirth and at least one symptom of disorders in the modified Gaudenz questionnaire. Symptom of overactive bladder was noted exclusively in two patients. The exclusion criteria were contraindications to therapy, especially infections, inflammations, fistulas, and bleeding. In patients with inability of VPFMC only electrotherapy was used. The "Periform" electrode with an indicator and TENS-type stimulators were used for therapy and diagnosis. Electrotherapy parameters were selected based on the presence of symptoms. For pelvic pain syndrome 2Hz was used; for OAB - 7-8Hz; and for UI -50-100Hz. The pulse length was set on every visit at 220 microseconds; if a contraction was not visible, the pulse length was gradually increased to 450 microseconds. The maximum tolerated current intensity was applied (up to 90mA). For the first 2 weeks, 30minute sessions were applied. In case of deterioration, the treatment time was shortened by 15 minutes, and in the absence of improvement, it was extended by 15 minutes (up to a maximum of 75 minutes). In case of improvement, treatment time was increased by 5 minutes on every visit. Treatments were administered daily for the first 2 weeks, then 5 days a week for the next 2 weeks, and three times a week until the end of the intervention. The Work/Rest mode was applied in a 4/2 ratio (up to 8/2 maximum). In patients with ability of VPFMC, exercises were added during stimulation.

Immediate void was necessary for 14% at the beginning and 2% at the end of the study (p<0.004). The feeling of complete bladder emptying was reported by 52.6% at the beginning and 74.2% at the end of the study (p=0.003). UUI (Urgency Urinary Incontinence) 49.5% at the beginning and 89.7% at the end of the study (p<0.001). Discomfort associated with POP was noted in 42% of patients. At the end of the study, this problem persisted in 7% (p<0.001), with a reduction in symptom severity observed in 18% (p<0.001). Vaginal sensation improved in 23% of participants (p<0.001), with missed data for 3%. Reduction in anorgasmia was observed from 9% to 0% (p=0.003). Infection occurred in 3% of patients during the study (p=0.613), and 28% of patients discontinued therapy (p<0.001). Hot flashes and hormone intake did not change during trial (from 9% to 7% p=0.796, from 14% to 15% p=0.818 respectively). Tab1. Selected symptoms' efficiency



The intervention was finished in case of no progress for three consecutive months or after the disappearance of all symptoms from the modified Gaudenz questionnaire, or after 13 months. The secondary objective was to observe the impact of the intervention on the ability of VPFMC, discomfort associated with POP, urethral, bladder, and vaginal sensation, sexual intercourse comfort, and peristalsis. Improvement was deemed to occur when the absence or improvement of symptom occurrence persisted for 4 consecutive weeks. UI was observed through pad tests and questionnaire. The study ended with observations on 97 patients.

#### INTERPRETATION OF RESULTS

Long-term, high-dose, individualized electrotherapy combined with exercises in a group of postpartum women with UI proved to be more effective than in previously reported studies for this group. Additionally, the assessment of underwear dryness showed greater efficacy than questionnaire assessment. There was a significant reduction in the occurrence of symptoms of SUI, OAB, UUI, mixed urinary incontinence, frequency, and nocturial enuresis. The study also reported the largest reduction in symptoms related to POP ever published in "Neurourology and Urodynamics." The sensation of POP disappeared in over half of the participants, with improvement noted in the majority of the remaining cases. Objective ultrasound analysis was not reported, which does not exclude an impact on POP. Example of the therapy's effect is presented in Image 1.

Image 1 - Example of the therapy's impact on a patient with POP.

Increased intraabdominal At rest (supine position) pressure Patient 3,5 weeks The same patient after 10 months'

after delivery -

before physiotherapy

physiotherapy

The patients also reported improvement in sexual function,

### **Results and interpretation**

In the general assessment of UI, there was a 64% reduction in symptom occurrence (p<0.001). In the pad test, the dryness of pads increased from 25% at the beginning of the study to 75% at the end of the study (p<0.001). The occurrence of damp pads reduced from 46% to 17% (p<0.001), and wet pads decreased from 10% to 0% (p=0.003). Data for 2% of patients were lost in this question. In the question "I don't feel/know when," there was a reduction from 21% to 3% (p<0.001). Regarding the frequency, void every 3-6 hours was reported by 26% at the beginning and 77% at the end of the study (p<0.001). In terms of nocturia symptoms, 42% of patients did not wake up due to bladder pressure at the beginning, increasing to 73% by the end of the study (p<0.001). At the beginning of the study, 53% of patients could withstand bladder pressure for more than 15 minutes, increasing to 92% by the end (p<0.001).

however, these were secondary goals. Separate research evaluating the issue of anorgasmia and the effectiveness of this therapeutic strategy is needed. The patients' decision to discontinue therapy had an impact on the achieved results. Adverse effects were not significant for the study.

### **Conclusions**

The presented study is the first comprehensive examination assessing the impact of intensive, long-term physiotherapy on pelvic floor disorders in women with symptoms of UI after childbirth. Intensive, long-term, individualized electrotherapy combined with PFMT is effective not only in treating various symptoms of UI, OAB, VPFMC, frequency, nocturia, urgency, but also in treating POP discomfort and sexual dysfunction. Therefore, this strategy allows achieving the main goal of pelvic floor disorder therapy, which is to improve patient comfort. Additionally, sensation within the urethra and vagina improved. This method did not improve bladder sensation, peristalsis and intercourse pain.

### References

. Gaudenz R. Der Inkontinenz-Fragebogen mit dem neuen Urge-Score und Stress-Score. Geburtsh u Frauenheilk 1979; 39: 784–792.

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