Effectiveness of extracorporeal electromagnetic stimulation power 3 Tesla in women with stress urinary incontinence with ultrasound control of pelvic floor muscles

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Introduction

SUI significantly reduces the quality of life of female patients, causing psychological discomfort and limitations in social activity.

Modern non-invasive treatment methods, such as extracorporeal electromagnetic stimulation power 3 Tesla (ES), are becoming an important direction in the therapy of SUI.

Aim

To evaluate the efficacy of extracorporeal electromagnetic stimulation (ES) in women with SUI type 1-2 using ultrasound monitoring of the pelvic floor muscles before and after treatment.

Method

The study included 20 women aged 35 to 45 years with diagnosed SUI type 1-2. All participants underwent an initial examination including history, urinary diaries, pelvic floor ultrasound (PFU) and completion of the ICIQ-UI SF questionnaire.

- Patients received ES treatment at a frequency of 2 sessions per week, 10 sessions total. The duration of one session was 20 min.

- The procedure was performed on the Salus Talent Pro device, power 3 Tesla.

The stimulation mode was multimodal with a combination of frequencies from 2-3 Hz to 35 Hz. Ultrasound control of the pelvic floor muscles was carried out before and after the course of treatment.

- Clinical dynamics was assessed according to the ICIQ-UI SF scale and subjective feelings of the patients.

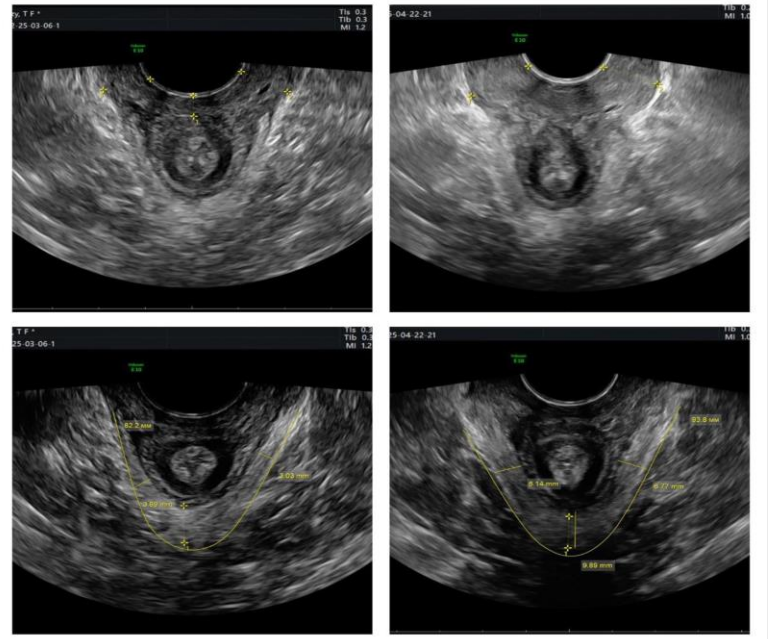
Extracorporeal magnetic stimulation device (Salus Talent Pro) – photo 1.

Objective Improvements

Muscle Thickness : The average thickness of the puborectalis muscle, as measured by ultrasound, increased from 7.2 ± 1.1 mm before treatment to 9.8 ± 1.3 mm after treatment ($p < 0.01$). This statistically significant increase indicates enhanced muscle strength and tone, which are critical for improving pelvic floor function.

ICIQ-UI SF Score : The mean International Consultation on Incontinence Questionnaire - Urinary Incontinence Short Form (ICIQ-UI SF) score decreased from 14.5 ± 2.3 to 5.2 ± 1.8 ($p < 0.01$). This substantial reduction reflects a marked improvement in symptoms and overall urinary control.

Ultrasound images of the pelvic floor muscles before (1,2) and after treatment (3,4).



Conclusion

Extracorporeal electromagnetic power 3 Tesla stimulation showed high efficacy in the treatment of SUI type 1-2 due to the muscle-tone effect.

Ultrasound control allowed an objective assessment of changes in muscle size.

The method is safe, non-invasive and well tolerated by the patients.