Results

In the control examination after 12 sessions of EXMS, urinary incontinence was maintained in 3 (11.1%) patients, 4 (14.8%) patients used 1 safety pad, and complete urinary retention was achieved in 20 (74.1%) patients. Analysis ICIQ-SF questionnaire found out significant improvement in symptoms and quality of life. The average score on the ICIQ-SF scale also decreased when answering questions about the frequency of urine leakage, its amount and the effect of urinary incontinence on daily life (p<0.05) (Fig 1 and Fig 2).

The total score of ICIQ-SF scale after performing exercises for pelvic floor muscles decreased from 12.9±0.3 to 3.7±0.4 (p<0.05) (Fig.3).

Interpretation of results

The extracorporeal magnetic stimulation treatment lead to improvement in postprostatectomy stress urinary incontinence. This improvement was more fast and intensive that just doing pelvic floor exercises. The procedure was well tolerated, there were no any adverse events.

EMI is a new technique for noninvasively stimulating the central and peripheral pelvic electromotor system. The principle of action of EMI is based on Faraday’s principle of magnetic induction, which is a principle of induction, in which a changing magnetic field is generated. When the patient, fully clothed, sits down on the treatment chair, a strong electric current begins in the stimulation coil, and a magnetic field is generated in the vicinity of the stimulation coil. An electric current is then induced in the patient’s pelvic floor muscles. The magnetic waves penetrate the pelvic floor and locally stimulate the muscles by activating the nerves. The effect seems to involve not only the motor, but also the sensory fibers of the pelvic floor innervation. Thus the therapeutic effect, in our opinion, was caused by excitation of peripheral nerve fibers, contractions and training of striated muscles of the pelvic floor, smooth muscle elements of the bladder, urethra, blood vessels and improvement of microcirculation.

Conclusions

Extracorporeal magnetic stimulation of the neuromuscular part of the pelvis is an effective and safe method of treatment of patients with stress urinary incontinence after radical prostatectomy and can be used in the program of postprostatectomy rehabilitation.

References

