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EFFICACY OF A PELVIC FLOOR MUCLES REHABILITATION PROTOCOL: A CONTROLLED STUDY

Aims of Study

Despite a large diffusion and the recommendation of its use as first line treatment for female patients with stress urinary incontinence (SUI)(1), there is a lack of consolidated data on the efficacy of pelvic floor muscles (PFM) rehabilitation treatment. If there is general agreement on the fact that PFM exercises are better than no treatment and of placebo in women with urodynamic SUI, there is no evidence that electric stimulation (ES) or biofeedback techniques could improve the outcome; furthermore, because of differences in the outcome evaluations among authors, it is difficult to estimate the size of the treatment effect (1). Aim of our study was to evaluate the outcome of urodynamic SUI female patients, treated with a standardized and controlled protocol of PFM rehabilitation.

Methods

68 female patients with urodynamic SUI were enrolled in prospectic trial from may 2002 to January 2003. Exclusion criteria were: presence of a neurological disease, diabetes, haematuria, UTI, LUT abnormalities; abnormalities of the voiding phase; severe pelvic organ prolapse (> stage II, following ICS classification); previous surgery for urinary incontinence; Valsalva leak point pressure (VLPP) <40 cmH2O. Their mean age was 54±13 (21-77) years. All patient underwent a urologic work-up constituted by history, objective examination; urinalyses; urinary tract US; urodynamic evaluation (uroflowmetry; cystometry, followed by a pressure/flow study and VLPP). Evaluation was constituted by voiding diaries (with registration of the amount of leakage on the basis of a 1-3 severity scale: 1: drops; 3: severe leakage with necessity to change dresses; 2: intermediate), quality of life questionnaires (I-QoL, SF-36) and digital PFM evaluation (0-5 score: 0: no contraction; 5: maximum contraction). The amount of used pads was also recorded.

Patients were than called after 4 weeks to start the treatment, but, before, the evaluation was repeated. The treatment was constituted by two sessions per week, repeated for four weeks. In the first two sessions, patients were instructed to contract PFM and abolish the use of other muscles, with the help of the physiotherapist and of BFB sessions; ES was performed via intra-vaginal probes (alternating current; 50 Hz) for 30 minutes. In the next sessions patients performed series of PFM contractions (10 maximal contractions for six seconds, with intervals of 15 seconds, repeated three times); BFB was also used, with the aim of increasing the voluntary control on PFM muscles, as well as ES. Patients were instructed to repeat PFM exercises at home at least once per day, even after the end of the sessions. Evaluation was repeated at the end of the four weeks of treatment and after 3 months. Primary outcome measure was the n. of leakage episodes per day; other outcome measures were number of used pads and PFM evaluation score. Results were statistically compared.

Results

Three out of 68 patients did not complete the treatment and were excluded by the evaluation. 3 month follow-up is available only for 42 of the remaining 65 patients. Results are shown in table 1.

	Week -4	Week 0	p	Week 8	p*	Week 24 (42 pats.)	p*
	Mean (SD)			Mean (SD)		Mean (SD)	
N. of incontinence episodes	2,3 (1,5)	2,1 (1,3)	ns	1,3 (1,1)	<0,01	1,0 (0,9)	<0,01
N. of used pads	2,3 (1,4)	2,0 (1,1)	ns	0,9 (0,9)	<0,01	0,5 (0,7)	<0,01
Leakage severity	1,42 (0,5)	1,44 (0,5)	ns	1,15 (0,6)	ns	1,12 (0,5)	ns
PFM evaluation score	2 (1,2)	2 (1,2)	ns	2,9 (1,3)	<0,01	3,2 (1,0)	<0,01
I-QoL	74 (12)	73 (14)	ns	90 (12)	<0,01	92 (13)	<0,01
SF-36	63 (10)	64 (9)	ns	68 (13)	<0,01	68 (12)	<0,01

Legend: *vs week 0

22 patients (33,8%) were completely dry after treatment; 28 (43%) showed a reduction $\geq$50%, while 15 (23,2%) showed a reduction <50% of incontinence episodes.

Conclusions

This controlled study shows that such a standardized protocol of PFM rehabilitation can achieve a complete continence in about 1/3 of selected urodynamic SUI female patients; almost a half of these patients show significant amelioration of their condition. Further investigations are needed to verify if modification of this protocol could increase the success rate.

References

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