771

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FUNCTIONAL PELVIC FLOOR MAGNETIC STIMULATION IN THE TREATMENT OF URINARY INCONTINENCE, PELVIC PAIN SYMPTOMS AND STOOL SMEARING

Hypothesis / aims of study

Data on effects of functional pelvic floor magnetic stimulation (FMS) are still rare (1). The indications are similar to other forms of external electrical treatment. We treated patients with stress incontinence who couldn't properly contract their pelvic floor muscles arbitrarily as examined vaginally in women and perineally in men. We also treated patients with OAB who failed or didn't like pharmacological treatment. We further treated patients with pelvic pain syndrome and only recently started training patients with symptoms of stool smearing. In order to evaluate if magnetic stimulation can improve results of behavioural treatment in patients with OAB we prospectively compared women with OAB Symptoms who were treated with bladder- and micturition training alone and compared them to patients who were treated additionally with FMS.

Study design, materials and methods

All patients were properly diagnosed (anamnesis, clinical examination, urine analysis, micturition diary/ stool diary, free uroflow, residual urine, ICIQ questionnaire. In nearly 60% of all patients diagnosis was confirmed by doing a full urodynamic investigation. Patients with pelvic pain symptoms were additionally evaluated using a visual analogue pain scale of 1-10.
For FMS, the magnetic stimulator unit was set on an armchair type seat and had a concave shaped coil, so that the patients could sit during stimulation. All patients were scheduled for six weeks treatment, twice a week for session of 20 to 30 minutes with 10Hz and 50 Hz for 10 to 15 minutes each. Stimulation strength was individually adjusted according to the individual pain level. ICIQ questionnaire was our main outcome measurement for all patients with urinary incontinence. A reduction of more than 25% was considered as an improvement. In women with stress incontinence, who were not able to properly contract their pelvic floor contraction was measured using Oxford grading (0 to V) and improvement was considered when improving more than two Grades. A decrease of >25% on the visual analogue scale was considered as an improvement for patients with pelvic pain syndrome. In the few patients with stool smearing we used the Wexner Score in addition to subjective self rating. Prospectively 48 women with OAB symptoms were investigated, comparing those having opted for behavioural training alone and those who chose additional FMS.

Results

222 patients were treated and results from 195 patients could be evaluated. 19 patients didn't continue the treatment after the first session and eight patients couldn't be evaluated due to incomplete data.

	All (n)	Success (n)	Success (%)
Stress incontinence	83	48	58%
OAB syndrome	81	43	53%
Pelvic pain syndrome	26	5	19%
Stool smearing	5	2	40%

Results differed by diagnosis, but not by age (over >65y compared to patients <65y).
Prospectively we investigated 48 patients with OAB treated with behavioural treatment alone and behavioural treatment including FMS.

	All (n)	Success (n)	Success (%)
With magnetic stimulation	26	22	85%
Without magnetic stimulation	22	7	32%

In all patients no adverse events were reported

Interpretation of results

Functional magnetic stimulation can be a useful addition to other forms of conservative treatment in stress incontinence and OAB. It helps to get a better feeling for the patients' pelvic floor muscle. It is suspected that especially low frequency stimulation of 10 Hz helps to inhibit detrusor overactivity (2). Results of female patients treated with behavioural treatment with and without FMS might be biased by the fact that these women had a choice and were not randomised. Motivation might have been higher in those choosing additional magnetic stimulation. Only few patients with pelvic pain syndrome benefited from FMS which is not surprising considering the different aetiology of this syndrome.

Concluding message

Functional magnetic stimulation can be a helpful addition in conservative treatment regimes of urinary incontinence. Especially for elderly patients the magnetic stimulation device is easy to use. The patient doesn't have to undress and not no intravaginal or intrarectal device is needed. Since the use of a sham device was not possible in our setting we can't exclude that part of the success is due to extra motivation for behavioural treatment regiments.

References

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Is this a clinical trial?	**No**
What were the subjects in the study?	**HUMAN**
Was this study approved by an ethics committee?	**No**
This study did not require eithics committee approval because	**Magnetic stimulation has been approved for conservative treatment of incontinence**
Was the Declaration of Helsinki followed?	**Yes**
Was informed consent obtained from the patients?	**Yes**