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TIME EFFECT OF EXTRACORPOREAL MAGNETIC INNERVATION THERAPY IN STRESS URINARY INCONTINENCE

Aims of Study

Extracorporeal magnetic innervation therapy (EMIT) induces passive exercise of the pelvic floor muscles by electrical current generated in magnetic field. Short-term passive exercise have not been reported to last effectively over 6 month. Therefore, it has been expected that pelvic floor muscles strengthened with EMIT go weak down as over time if other muscle strengthening programs are not continued. The purpose of this study is to assess the treatment effect of the EMIT and to determine how long the effect of this treatment lasts.

Methods

Among 36 stress urinary incontinent patients treated with EMIT, 28 patients (16 in grade I and 12 in grade II) were followed up completely. Before, and 1st and 6th month after EMIT, voiding diary, incontinence episodes, pad test, and quality of life questionnaires were evaluated. BioCon 2000TM (Mcube Co. Korea) was used for EMIT. The protocol of EMIT was to operate for 30 minutes, triple a week for 6 weeks. The treatment outcome was classified with cure, good, fair, poor and failure with scoring system. Results were analyzed statistically using Wilcoxon rank sum and Fisher's exact tests.

Results

Incontenence episode (time/day) was improved significantly from 4.2 to 1.5 and 2.8 at post-treatment 1st and 6th month, respectively. Amount of urine leakage significantly decreased 21 gm/day into 6 and 14 gm/day at 1st and 6th month after EMIT. Quality of life was scored from 4.4 to 1.9 and 3.0 at post-treatment 1st and 6 th month with significance. The overall cure rate was 35.7% (10/28) at 1st month, 17.9% (5/28) at 6th month. Further classified, the cure rate in grade was 43.8% (7/16) and 25% (4/16) at 1st and 6th month, and in grade , 25% (3/12), 8.3% (1/12) respectively. The overall success rate (cure plus good) was 75% (21/28) and 53.6% (15/28) at 1st and 6th month after EMIT. The success rate in grade I at post-treatment 1st and 6th month was 81.3% (13/16) and 62.5% (10/16), and in grade II, 66.7% (8/12) and 41.6% (5/12). In brief, parameters of symptom severity were significantly improved 1 st and 6 th month after EMIT but the values decreased over time. There were no adverse effects during EMIT.

Conclusion

It was suggested that EMIT was an effective treatment for stress urinary incontinence without any adverse effect, especially in low grade, but its effect was slowly decreased over time. In order to maintain or improve its effect, continuous EMIT with a regular interval or other physical exercise maybe need.