

물리학

발표일시 및 장소 : 10 월 26 일(금) 13:25-13:35 Room B(5F)

## OP1-1-2

### Transabdominal functional magnetic stimulation for constipation in brain-injured patients

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#### Objective

To investigate effects of the transabdominal functional magnetic stimulation (A-FMS) for constipation in stroke or brain-injured patients.

#### Methods

Twenty-four brain-injured patients (11 male, 13 female, median age 65 years, 22 stroke and 2 TBI) with constipation, who were admitted to the rehabilitation department, were enrolled and divided them into magnetic stimulation group (MS) and sham-treated control group (Sham) randomly and several parameters about constipation were evaluated such as total and segmental colon transit time (CTT), defecation frequency, and Bristol stool scale (BSS) before and after 2 weeks of A-FMS (5 times per week, total 10 times of A-FMS). Korean version of the modified Barthel index (K-MBI) was also evaluated.

#### Results

The change of segmental CTT in the left colon was significantly decreased ( $-8.2 \pm 3.85$  vs  $4.1 \pm 2.5$  hours,  $P < 0.05$  by paired sample T test) and frequency of defecation was significantly increased ( $1.5 \pm 0.15$  vs  $0.67 \pm 0.26$ ,  $P < 0.05$  by paired sample T test) in the MS compared to in the Sham. Stool hardness, evaluated by BSS, became softer in the MS than in the Sham significantly (from 2.3 to 3.5 in the MSG, and from 2.6 to 3.1 in the Sham,  $P < 0.05$  by Chi-squared test). The change of K-MBI had no difference between two groups.

#### Conclusion

The present study suggests that A-FMS can be an additional therapeutic tool for managing constipation in brain-injured patients affecting bowel movement, defecation frequency, and stool hardness.