

## PROSPECTIVE EVALUATION OF PERISTEEN® TRANSANAL IRRIGATION SYSTEM IN MULTIPLE SCLEROSIS PATIENTS: RESULTS FROM AN ITALIAN SINGLE CENTRE STUDY

### Hypothesis / aims of study

Patients with multiple sclerosis (MS) often experience severe debilitating lower urinary and bowel dysfunction in addition to the physical disabilities. However, only the bladder has received the attention of medical providers with neurogenic bowel being poorly understood.

The aim of this study was to determine the ability of Peristeen® transanal irrigation system to reduce symptoms of neurogenic bowel dysfunction (NBD) and the effects on patient quality of life (QoL), lower urinary tract and sexual dysfunction.

### Study design, materials and methods

From January 2016 to January 2017, consecutive patients with diagnosis of neurogenic bowel dysfunction secondary to MS who were unsuccessful with their current bowel regimen were recruited from our neurological department. This was a prospective clinical trial of 6-month period: the first phase of 3 months was a roll-in time to determine whether patients respected inclusion criteria, to appreciate their bowel habits and to verify how many urinary tract infections (UTIs) were present during this period. The second phase of 3 months was the operative trial with the use of transanal irrigation. Luts were evaluated with the International Prostate Symptoms Score (I-PSS), neurological impairment was assessed using the Expanded Disability Status Scale (EDSS), bowel dysfunction was investigated with the Neurogenic Bowel Dysfunction score (NBDs) and sexual dysfunction was recorded with the International Index of Erectile Function (IIEF-15) and Female Sexual Function Index (FSFI).

The examination included urinalysis, ultrasonography and an urodynamic test according to International Continence Society (ICS)-criteria.

### Results

60 patients completed the study and were included in the analysis (20 (20 %) men and 40 (80%) women). Mean age was 41.2±11.6 years and mean duration of the disease was 11.5±7.5 years. Mean EDSS score was 3.77±2.01 with no significant difference between the types of clinical course of the disease. Comparing questionnaire scores before and at the end of the study, the mean±s.d. scores were as follows: NBD total score was 17.0±2.3 versus 9.46±4.40 (P<0.001); IIEF total score was 41±8.2 versus 65±7.2 (P<0.001); FSFI total score was 21.2±4 versus 25.8±3.7 (P<0.001); IPSS was 26±4 versus 18±4 (P<0.0001). About modality for evacuation, we observed a significant reduction in manual extraction (25 patients before versus 4 after the trial; P<0.01), in suppositories or enema (18 patients before versus 5 after the trial; P<0.01) and in the use of oral laxatives (17 patients before versus 5 after the trial; P<0.01). Patients with an EDSS score< 4 showed an higher improvement of bowel habit. Regarding UTI, data collected evidenced a general decrease during the study, particularly, of Escherichia coli infections: 24 UTI in 3 months before treatment (9 E. coli) versus 6 (3 E. coli) during trial (P<0.01). There was an increase in patients' opinion of their intestinal functionality (P<0.001), their QoL score (P<0.001) and their answers regarding the degree of satisfaction (P<0.001).

### Interpretation of results

Neurogenic bowel dysfunctions are a well-established complication of several neurological conditions. Our clinical trial, to the best of our knowledge, is the first in MS patients. Studies have shown that NBD patients have a prolonged colonic transit time, and that anal squeeze pressure, anorectal sensibility and anal resting pressure may also be impaired. Furthermore, a reduced rectal compliance due to hyperreactivity of the rectum to distension was demonstrated in patients with spinal lesions. Our results suggest that transanal irrigation is a valid treatment for neurogenic constipation and improves quality of life, lower urinary tract and sexual dysfunction.

### Concluding message

Transanal irrigation in patients with MS is an alternative and relatively safe approach for managing neurogenic constipation; in fact, it improves bowel disturbances, quality of life and seems to reduce the risk of urinary tract infections. Long-term follow-up data are required to confirm the results of this study

### References

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### Disclosures

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