

RELATIONSHIP BETWEEN URODYNAMIC FINDINGS AND BOWEL FUNCTION IN MULTIPLE SCLEROSIS PATIENTS WITH LOWER URINARY TRACT DYSFUNCTION: RESULTS FROM AN ITALIAN CROSS-SECTIONAL 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 observational, cross-sectional study was to determine the relationship between bowel dysfunction, neurological disability and urodynamic alterations in patients with MS and lower urinary tract dysfunction (LUTD).

Study design, materials and methods

From January 2015 to January 2017, consecutive patients with MS in remission phase and lower urinary tract symptoms (LUTS), who underwent urodynamic examination for the first time were recruited from our neurological department. LUTS were evaluated with the International Prostate Symptoms Score (I-PSS), neurological impairment was assessed using the Expanded Disability Status Scale (EDSS) and bowel dysfunction was investigated with the Neurogenic Bowel Dysfunction score (NBDs). The examination included urinalysis, ultrasonography and an urodynamic test according to International Continence Society (ICS)-criteria.

Results

110 patients (35 (31.8%) men and 75 (68.18%) women) completed the study. 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 and mean NBD score was 16.0 ± 1.39 (severe), with no significant difference between the types of clinical course of the disease. Detrusor Overactivity (DO) was found in 25 (22.7%) males and 45 (40.9%) females. Subjects with maximum detrusor pressure during involuntary detrusor contraction (PdetmaxIDC) ≥ 20.0 cmH₂O and maximum cystometric capacity (MCC) ≤ 135 ml had higher NBD score. On multivariate logistic regression analysis, continuous EDSS (odds ratio (OR) = 1.54; P = 0.03), Pdet max IDC ≥ 20 cmH₂O (odds ratio (OR) 6.7; P < 0.05), MCC ≤ 135 ml (OR 6.80; P < 0.05) and poor bladder compliance (less than 12 cc/cm H₂O) were predictors of moderate-severe Neurogenic bowel dysfunction (NBD >9), after adjusting for age, MS variants, EDSS and duration of MS.

Interpretation of results

It is well known that the lower urinary tract and the bowel are closely related structures. Embryologically they both arise from the cloaca, are anatomically adjacent to each other, share muscular structure of the pelvic floor and have common autonomic and somatic nerves from the spinal cord. Therefore, diseases of the spinal cord have similar negative effects on the function of these organs.

Concluding message

Bowel dysfunction is common among patients with neurogenic bladder. Those with worse bladder symptoms also experience worse bowel dysfunction. This highlights the importance of addressing both bowel and bladder dysfunction in this often poorly understood population.

References

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Disclosures

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