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EFFECTS OF DETRUSORIAL OVERACTIVITY AND DISABILITY ON SEXUAL FUNCTION IN MULTIPLE SCLEROSIS PATIENTS: ANALYSIS FROM A SINGLE CENTRE CROSS SECTIONAL STUDY.

Hypothesis / aims of study

Multiple Sclerosis (MS) is a chronic disease that has a negative impact on sexually active adults. Several studies demonstrated that different risk factors contribute to the development of female and male sexual dysfunctions in MS patients including presence of physical disorders, neurological impairments, age at onset of the disease, depression and anxiety. The aim of this study was to evaluate the relationship between sexual function, urodynamic parameters, anxiety, depression and disability in MS patients.

Study design, materials and methods

A consecutive sample of 135 patients with multiple sclerosis, who underwent first urodynamic, was recruited from January 2011 to September 2013 from the MS outpatient clinic in this prospective cross-sectional study. Criteria for inclusion were: diagnosis of MS according to the McDonald Revised criteria and a "stable sexual relationship", defined as the presence of the same partners for six or more consecutive months. Indication for urodynamic was defined as follows: frequency ≥7 micturition per day or ≥1 during the night, urgency to void and/or urinary incontinence. Depression and anxiety were evaluated with the Hamilton Depression Scale (HAM-D) and the Hamilton Anxiety Scale (HAM-A). Sexual function was assessed with the Female Sexual Function Index (FSFI) or the International Index of Erectile Function (IIEF-15) and Multiple Sclerosis Intimacy and Sexuality Questionnaire (MSISQ). Test were completed using SPSS v. 19 software (SPSS Inc, IBM Corp, Somers, NY, USA). For all statistical comparisons significance was considered as $p < 0.05$.

Results

Of all subjects, 60 (44.4%) were female and 75 (55.6%) were male. Median age was 47.0 (IQR: 39.0-53.0), median duration of MS was 156 months (IQR: 60.0-228.0), median of the Expanded Disability Status Scale (EDSS) was 4.0 (IQR: 2.0-6.0), median of HAM-A was 12 (IQR: 8-17), median of HAM-D was 13 (IQR: 8.5-19). Fifteen (11.1%) patients had Primary Progressive (PP) MS, 26 (19.3%) had Secondary Progressive (SP) MS and 94 (69.6%) had Relapsing-Remittent (RR) MS. After urodynamic examination, Detrusorial Overactivity (DO) were diagnosed in 72 (53.3%).

We found that patients with higher EDSS (4.5-8) had lower IIEF-EF (10.4 vs. 20.8; p<0.01), IIEF-IS (4.6 vs. 9.6; p<0.05), IIEF-OF (4.2 vs. 8.0; p<0.05), IIEF-SD (4.9 vs. 7.53; p<0.05), IIEF-OS (3.8 vs. 5.8; p<0.05 in male patients and lower FSFI-Arousal (2.7 vs. 3.29; p<0.05), FSFI-Lubrication (1.7 vs. 2.8; p<0.05) and FSFI-Orgasm (1.2 vs. 2.0 p<0.05) in female patients. In all population, higher EDSS (4.5-8) patients had higher Post-void residue (PVR) (124.11 vs. 64.6; p<0.05), HAM-D (15.51 vs. 12.85; p<0.05), primary MSISQ (17.04 vs. 14.0; p<0.05) and secondary MSISQ (12.71 vs. 18.53; p<0.05).

Furthermore, DO subjects had lower FSFI (12.72 vs. 17.16; p<0.05), FSFI-Arousal (2.0 vs. 3.0; p<0.05), FSFI-Lubrication (2.0 vs. 3.0; p<0.05), FSFI-Orgasm (1.3 vs. 2.1; p<0.05)

IIEF-EF (13.3 vs. 21.0; p<0.05) and IIEF-OS (4.2 vs. 6.7; p<0.05).

At the correlation analysis, we demonstrated inverse association between EDSS and IIEF-EF (r= -0.55; p<0.01), IIEF-IS (r= -0.48; p<0.01), IIEF-OF (r= -0.42; p<0.01), IIEF-SD (r= -0.34; p<0.01), IIEF-OS (r= -0.38; p<0.01), FSFI-Desire (r= -0.32; p<0.01), FSFI-Arousal (r= -0.33; p<0.01), FSFI-Lubrication (r= -0.30; p<0.01), FSFI-Orgasm (r= -0.30; p<0.01), FSFI-Pain (r= -0.30; p<0.01) and positive association with HAM-D (r= 0.18; p<0.05), primary MSISQ (r= 0.30; p<0.01) and secondary MSISQ (r= 0.25; p<0.01).

At the multivariate logistic regression analysis, HAM-D (OR [95%CI] = 1.23 [1.0-1.42]; p<0.01), EDSS (OR [95%CI] = 2.15 [1.15-4.01]; p<0.01) and DO (OR [95%CI]: 34.58 [3.43-348.0]; p<0.01) were independent predictors of moderate-severe ED (IIEF-EF≤16), while HAM-D (OR [95%CI]: 1.12 [1.0-1.25]; p<0.05) and DO (OR [95%CI]: 7.4 [1.6-34.3]; p<0.05) are independent predictors of female sexual dysfunction (FSFI<26.55) after adjusting for age and MS variants.

Interpretation of results

Several studies have recently demonstrated the significant impairment of sexual function in MS patients. However, no specific mechanisms have been shown. Although disability and depression have been commonly associated with sexual dysfunction, we demonstrated for the first time that also DO represent an adverse predictive factor of sexual dysfunction. We suppose that the impairment of detrusorial function could be expression of underlined sexual dysfunction.

Concluding message

Disability, depression and DO are predictors of sexual dysfunction in MS patients. To this regard, anti-cholinergic drugs commonly used for the relief of DO could ameliorate sexual function. Further studies are requested to investigate this association.

References

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Disclosures