#71 Randomized-controlled trial assessing the need for urodynamic evaluation in Multiple Sclerosis patients with lower urinary tract symptoms

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Introduction

- Lower urinary tract symptoms (LUTS) are a major clinical problem and a significant cause of disability in multiple sclerosis (MS) patients.
- The need for complete urodynamic evaluation in such patients is not fully established in the literature.
- Some authors recommend to limit the first evaluation in these patients to plasmatic creatinine levels, urinalysis and renal bladder ultrasound before treatment [1], while others recommend a complete urodynamic evaluation including cystomanometry, Pressure Flow Study (PFS), and electromyography (EMG) [2].

Aim

To evaluate the effect of urodynamic evaluation in patients with MS and LUTS on treatment outcomes (symptoms, bother, and urologic quality of life)

Methods and Materials

Patients with MS and LUTS were recruited and had 2 visits to our center :

Visit 1

Demographics:
Age, sex, BMI
Disease characteristics:
Expanded Disability Status Scale EDSS
Duration of both MS and LUTS
Type of MS (RR, PP, SP)
MS treatment
Previous urological follow-up
Anterior urological treatment
Symptom Evaluation:
OverActive Bladder Symptom Score (OABSS)
Voiding subscore of IPSS (IPSS-V)
Urinary Bothersome Questionnaire in MS for voiding (UBQMS-V) and filling (UBQMS-F)
Urological quality of life (SF-QUALIVEEN) [3]
Lab tests:
Urinalysis with urine culture
Plasmatic creatinine level
Renal bladder ultrasound

Visit 2

Patients randomized in 2 groups :

Group A
- Uroflowmetry

Group B
- Uroflowmetry
- Cystomanometry
- Pressure Flow Study (PFS)
- Electromyography (EMG)

After the diagnosis, a treatment was given to each patient based on the whole evaluation

After 1st, 3rd and 6th months following treatment:

Patients blindly phone-called

In order to evaluate :
- Adherence to treatment
- Change in urinary symptoms
- Change in bother
- Change in urologic quality of life

Results were compared between the two groups before and after the initiation of treatment

Results

- **46 patients** were enrolled and were randomized to **23 patients in group A** and **23 patients in group B**.
- No significant inter-group differences ($p>0.05$) were found for age (A:41y vs. B: 44y), sex ratio (A:1.3 vs. B:0.53), BMI (A:24.4 kg/m2 vs. B:25.9 kg/m2) , duration of MS (A:11y vs. B:7y), duration of LUTS (A:3y vs. B: 5y), mean EDSS score (A:4 vs. B:4), type of MS (A:59%RR,22%PP vs. B:56%RR,26%PP), MS treatment (A:90% vs. B:83%), previous urological follow-up (A:14% vs. B:38%), and anterior urological treatment (A:27% vs. B:30%).
- No significant differences were found between the two groups respectively before the treatment and after the 6 month-follow up ($p>0.05$) for symptoms (OABSS and IPSS-V), bother (UBQMS-V and UBQMS-R), and urologic quality of life (SF-QUALIVEEN) (Fig.1).
- When comparing these scores before and after treatment independently of the group, significant improvement in all scores ($p<0.05$) was noted (Fig.2). No significant inter-group differences were found for the adherence to treatment ($p>0.05$) (A:61% vs. B:81%).

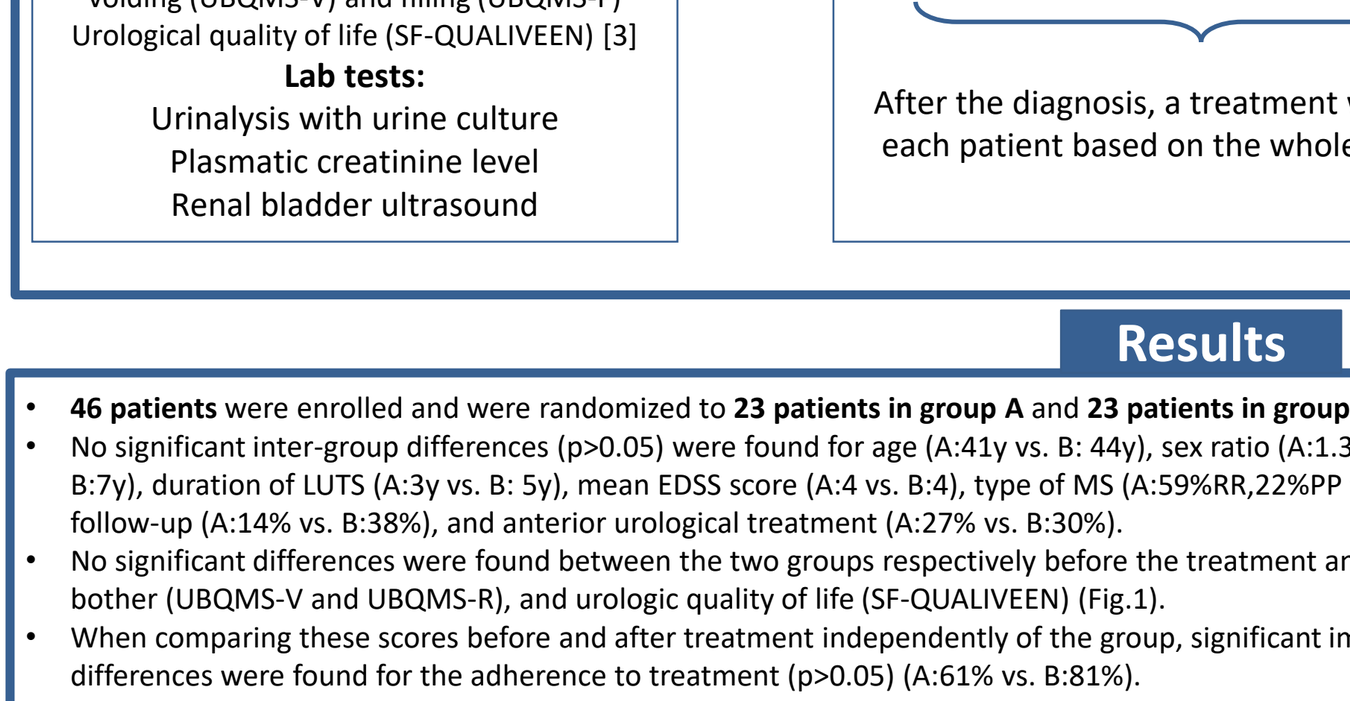

Figure 1. Comparison of symptoms, bother, and urological quality of life between group A and group B, before and after treatment

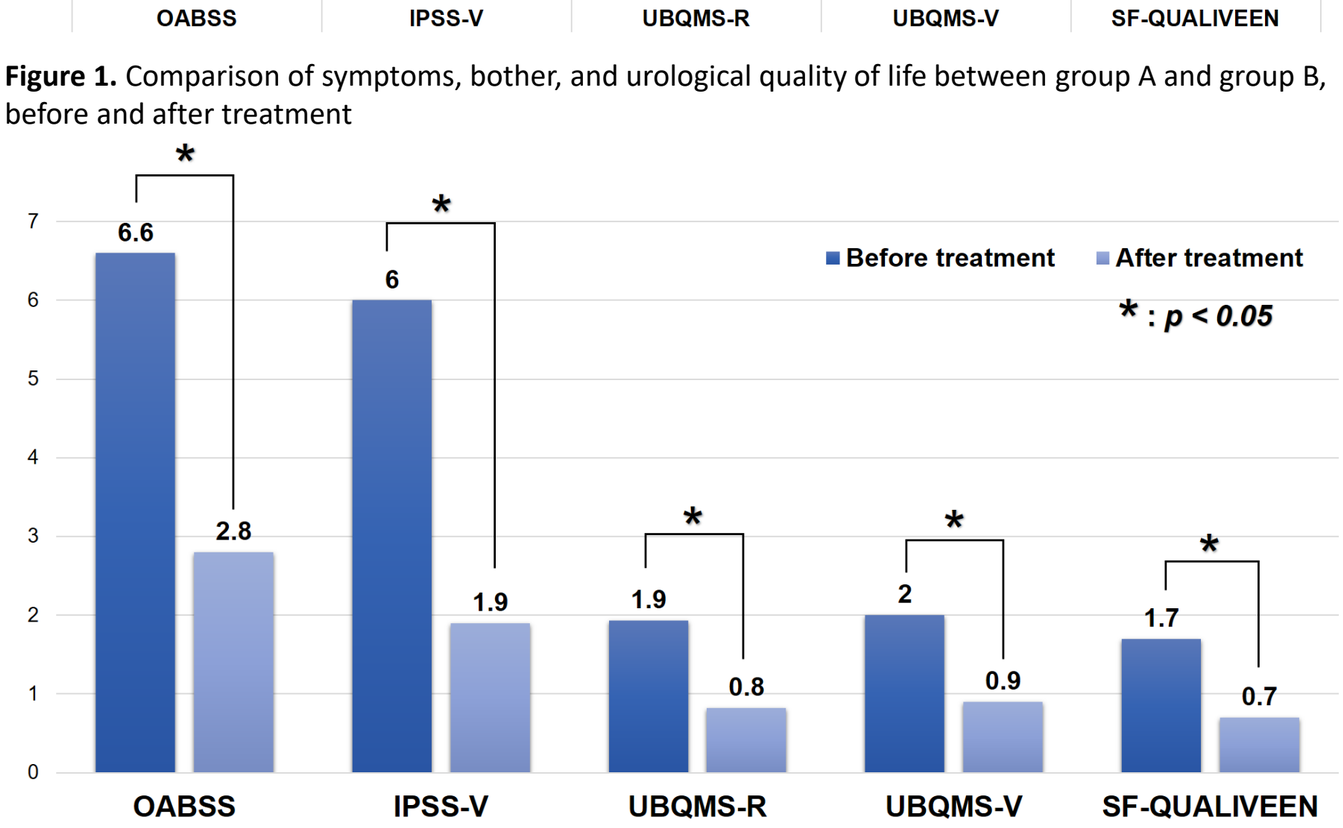

Figure 2. Comparison of symptoms, bother, and urological quality of life before and after treatment independently of the group

Discussion

- Conducting a whole urodynamic evaluation including cystomanometry, PFS, and EMG in addition to renal bladder ultrasound and uroflowmetry, did not influence treatment outcomes (symptoms severity, bother, and urologic quality of life), nor adherence to treatment, in patients of the group B.
- However, the treatment was effective in both groups in accomplishing its outcomes since the difference between before and after the treatment independently of groups was significant.
- These results should not be extrapolated to patients with renal failure or upper tract dilatation as in our study population we had only 2 patients with upper tract dilatation and no cases of renal failure.

Conclusions

- A detailed history taking with non invasive evaluation of MS patients with LUTS seems to be sufficient for prescribing an effective treatment.
- Adding a complete urodynamic study does not seem to influence the response to the prescribed treatment in terms of LUTS severity, bother and urologic quality of life nor does it affect the adherence to the suggested treatment.

References

[1] Amarenco et al. First-line urological evaluation in multiple sclerosis: validation of a specific decision-making algorithm. *Mult. Scler. 2013*
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