

# Clinical and urodynamic risk factors for recurrent urinary tract infections in patients with multiple sclerosis

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## Hypothesis / aims of study

- Our hypothesis is that urodynamic alterations due to neurogenic lower urinary tract dysfunction (NLUTD) are risk factors for recurrent urinary tract infections (rUTIs) in patients with Multiple sclerosis (MS)
- Consequently the aim to this study is to identify the clinical and urodynamic risk factors for rUTIs in a cohort of patients with MS.

## METHODS

- Prospective study between January 2015 and September 2017.
- We recruited 170 patients with MS who underwent a videourodynamic study with selective sphincter EMG due to lower urinary tract symptoms (LUTS).
- A follow-up of a year was carried out and finally 114 patients (84 women [74%] and 30 men [26%]; mean age ( $\pm$  standard deviation) 49  $\pm$  10.0 years, finished the study.

## RESULTS

### Relationship between clinical variables and rUTI occurrence.

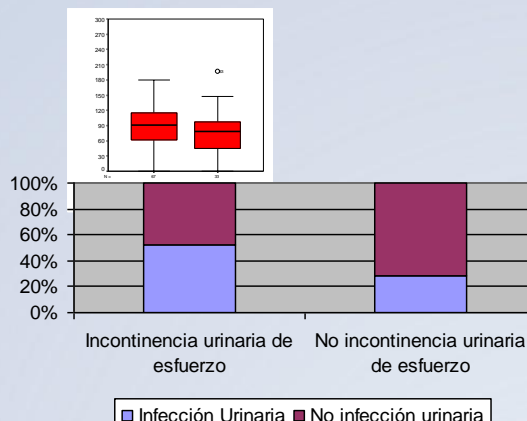
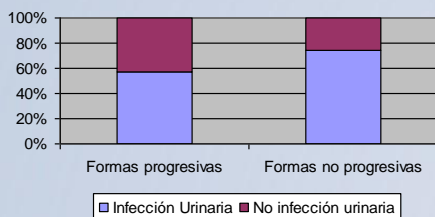
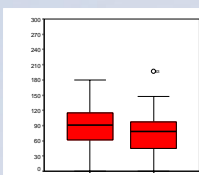
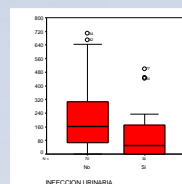
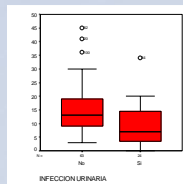
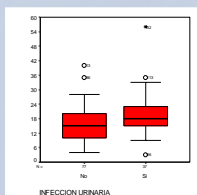
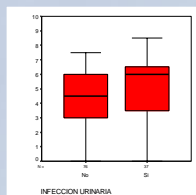
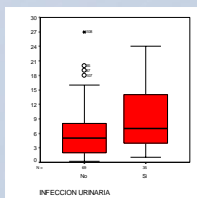
Statistically significant differences were observed for:

- Symptom progression time (longer in patients with rUTIs),
- MS duration (longer in patients with rUTIs)
- EDSS score (higher in patients with rUTIs), and
- MS type (greater rUTI frequency in primary progressive MS and secondary progressive MS).

### Relationship between videourodynamic findings and rUTI occurrence.

Statistically significant differences were observed for:

- Maximum flow rate (lower in patients with rUTIs).
- Voided volume (lower in patients with rUTIs)
- Bladder voiding efficiency (greater post-void residual volume in patients with rUTIs).
- Stress Urinary Incontinence (SUI) (greater rUTI frequency in patients with SUI)
- Detrusor pressure at maximum flow (lower in patients with rUTIs), and
- BCI score (lower in patients with rUTI).



## CONCLUSIONS

- Our study identified a series of clinical and urodynamic risk factors for rUTIs.
- Our data suggests that greater severity and longer duration of MS and impaired detrusor contractility are risk factors for rUTIs in patients with MS, whereas the presence of NLUTDs is not a specific risk factor.