

# Neurogenic lower urinary tract dysfunction in asymptomatic persons with multiple sclerosis # 48

Anke Jaekel, Franziska Winterhagen, Stephanie Knüpfer, Ruth Kirschner-Hermanns

Department for Neuro-Urology, Clinic for Urology, University Hospital Bonn, Germany / Neuro-Urology, Johanniter Neurological Rehabilitation Centre 'Godeshöhe e.V.', Bonn

## Background

Neurogenic lower urinary tract dysfunction (NLUTD) in asymptomatic persons with MS has been described in preliminary studies [1,2], but specific investigations of this topic are rare. Some authors advise early diagnosis and treatment of NLUTD in this cohort [3,4]. In contrast, clinical practice, and different guidelines, recommend further diagnostics only in presence of symptoms [5,6].

Our aim was to investigate the disease characteristics of NLUTD and the correlations of clinical parameters and NLUTD in asymptomatic persons with MS.

## Methods

We included data of 256 persons with MS. We evaluated bladder diaries, videourodynamic findings, and therapy proposals. Clinical parameters were correlated with urodynamic findings indicative of NLUTD. These parameters were: voided volume, voiding frequency, urinary tract infections, uroflowmetry, post void residual. Urodynamic (UDS) findings were defined: first desire to void < 100 ml, strong desire to void < 250 ml, abnormal sensation, bladder capacity < 250 ml, bladder compliance < 20 ml/cm H<sub>2</sub>O, any type of detrusor overactivity (DO) or detrusor sphincter dyssynergia (DSD).

## Results

In our study 26% (50/196) of the patients were asymptomatic. Details are shown in figure 1. No reduced bladder compliance, abnormal standardized voiding frequency or renal reflux were found.

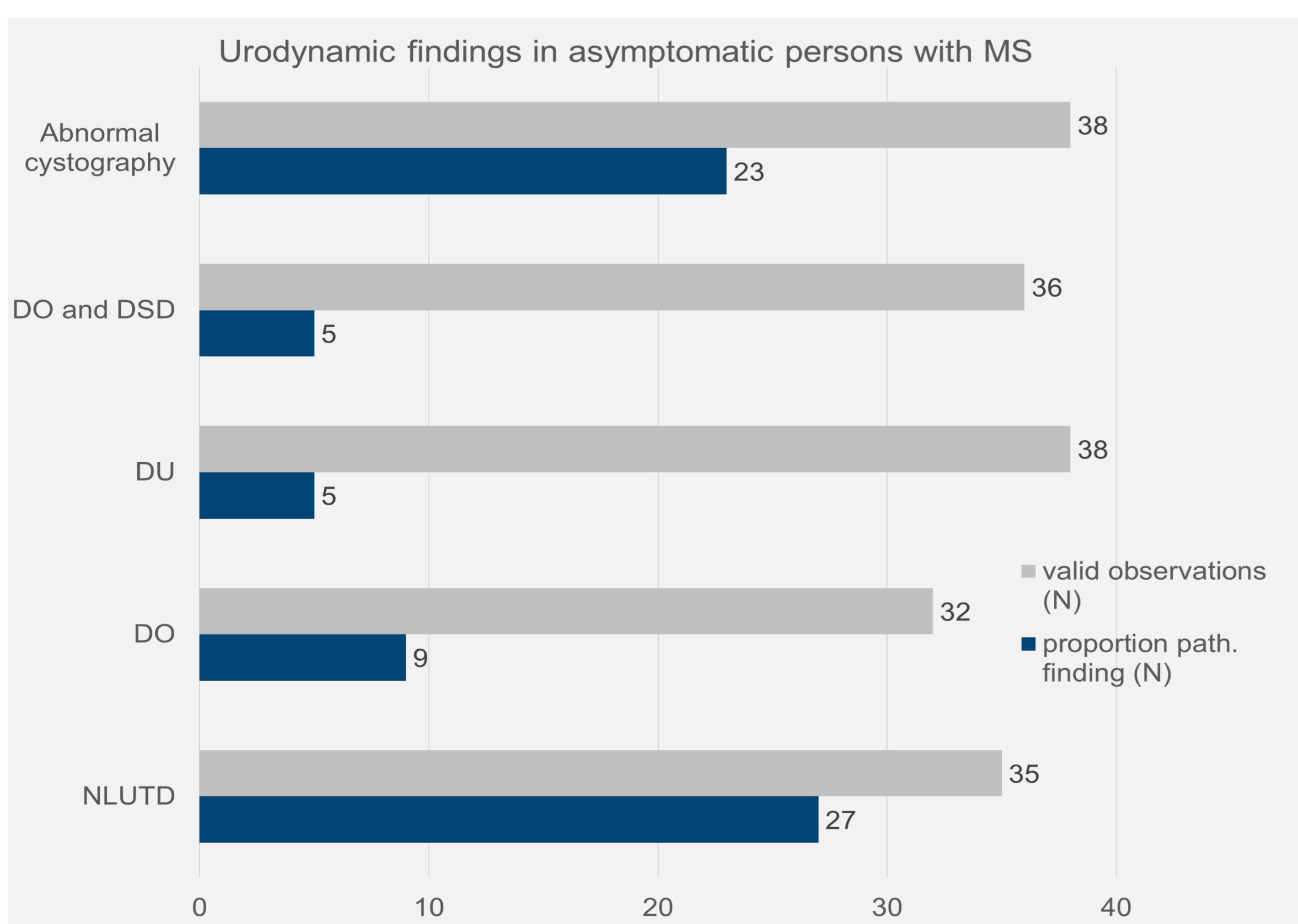


Figure 1 Urodynamic findings in persons with MS  
DO detrusor overactivity, DSD detrusor sphincter dyssynergia, DU detrusor underactivity, NLUTD neurogenic lower urinary tract dysfunction), N number

UDS of asymptomatic patients resulted in treatment recommendations in 42% (16/38). Details are shown in figure 2.

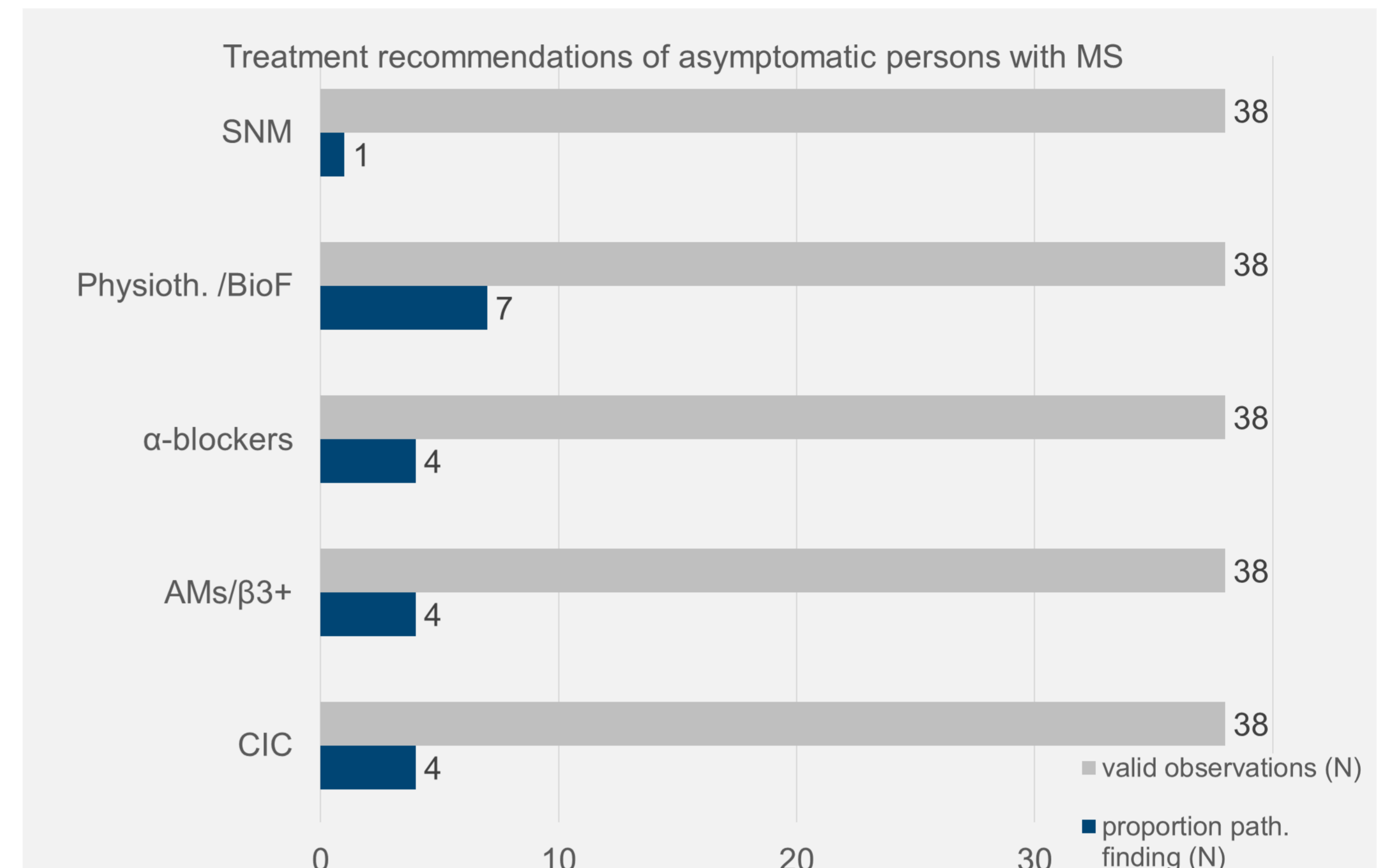


Figure 2 Treatment recommendations of asymptomatic persons with MS  
SNM sacral neuromodulation, BioF biofeedback, AMs antimuscarinergs/ β3+ β3 mimetics, CIC clean intermittent catheterization

Voided volume ≥ 500 ml and rate of urinary tract infections >0/6 month correlated with NLUTD (table 1).

	VV ≤250 ml	VV ≥500 ml	PVR >100 ml	UTI >0/6 month	Abnormal UF
UDS findings indicative of NLUTD	RR 0.98 0.68 – 1.41 p = 0.905	RR 1.33 1.06 – 1.68 p = 0.015	RR 0.98 0.68 – 1.41 p = 0.905	RR 1.32 1.09 – 1.6 p = 0.005	RR 1 0.72 – 1.39 p = 1

Table 1 Correlations of clinical parameters and UDS findings indicative of NLUTD  
VV voided volume, PVR post void residual, UTI urinary tract infections, UF uroflowmetry, UDS urodynamic study, RR relative risk

## Interpretation of results

More than one fourth of our study cohort have subjectively no urinary complaints. Without any further diagnostical investigation we wouldn't detect two third of potential NLUTD in this group of patients with MS. More than 50% have already anatomical changes of the lower urinary tract. An abnormal micturition frequency or a reduced bladder compliance seems to make patients symptomatic.

## Conclusion

- » The absence of symptoms does not exclude NLUTD in persons with MS. They should be examined for NLUTD regardless of subjective urinary symptoms and stage of disease. Otherwise, we miss the opportunity of early diagnosis and therapy of NLUTD.
- » BD and history of UTI can help to objectify the absence of symptoms.
- » Neurologists and general practitioners should cooperate early with urologists to evaluate persons with MS at risk of NLUTD.

## References

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