

NEUROGENIC LOWER URINARY TRACT DYSFUNCTION IN MULTIPLE SCLEROSIS: HOW IMPORTANT ARE URODYNAMICS FOR TREATMENT STRATEGY?

Hypothesis / aims of study

The value of invasive urodynamics in multiple sclerosis (MS) patients with neurogenic lower urinary tract dysfunction is discussed controversially: according to DasGupta and Fowler (2002)¹ history, clinical examination, urine analysis and PVR-evaluation are sufficient to define the treatment strategy, for others^{2,3} invasive urodynamics (Pressure-Flow-EMG) are an essential part of their neuro-urological investigation. Aims of this retrospective study was to evaluate the value of (video-) urodynamics for MS patients: how important are they to define the treatment strategy considering also risk factors for the urinary tract.

Study design, materials and methods

Material and methods: 163 pat.s, 115 women, 48 men, mean age 48 ys resp. 49 ys, mean duration of illness 9,8 ys resp. 12,5 ys. We looked for clinical symptoms (incl.UTI), voiding diary, echography of the urinary tract incl. PVR and, as primary urodynamic parameters, for bladder compliance, detrusor overactivity and in the pressure-flow study the maximum pressure (pdetr.max during voiding).

Results

Symptoms of the overactive bladder in 137/163 (84%), in 60/137 with *urge incontinence*; *recurrent urinary tract infections* (>3x/yr) 50/163 (30%); PVR more than 30% of bladder capacity (based on voiding diary) 52/163 (32%).

(Video-)urodynamics

Bladder compliance normal in 127/132 (96,3%); *phasic and terminal detrusor overactivity* 101/132 (76,5%); *maximum pressure (pdetr.max)*. >100 cm H₂O 0/132; >70 cm H₂O in 18 (13,6%); between 41 and 70 cm H₂O in 39 (29,5%), between 10 and 40 cm H₂O in 65 (49,2%); <10 cm H₂O in 10 (7,6%). Therapeutic measurements are shown in Tab.1.

Interpretation of results

Urodynamics detected a low compliance bladder in 3,7%, in none the pdetr.max was above 100 cm H₂O. In 2 male pat.s (age 59 ys and 62 ys) urodynamics revealed a bladder neck obstruction as a co-factor for significant PVR, in 2/50 pat.s with recurrent urinary tract infections a low grade vesicoureterorenal reflux was found and long-term infection prophylaxis recommended. In all other pat.s (video-) urodynamics did not change the therapeutic strategy which would have been chosen also on the basis of history, voiding dysfunction, urine analysis and PVR only.

Concluding message

For MS patients with LUT dysfunction (video-) urodynamics (pressure-flow studies) are recommended in those with a history of recurrent urinary tract infections and in males with suspected bladder outlet obstruction. In all other pat.s for daily practice history, voiding diary, targeted clinical examination, urine analysis and PVR are sufficient to define the treatment strategy.

Tab.1

Multiple Sclerosis Patients n=163

Therapeutic strategy

Detrusorrelaxation only	47	28,8%
Detrusorrelaxation + intermittent catheterisation*)	27	16,5%
Intermittend catheterization alone**)	24	14,7%
Indwelling catheter	9	5,7%
no urologic therapy at last control	56	34,3%

*) Intermittent self-catheterization n=40 24%

***) Intermittent catheterization by the carer n=11 6%

References:

1. Sexual and urological dysfunction in multiple sclerosis: a better understanding and improved therapies. Current Opinion in Neurology, 15:271, 2002
2. Urodynamic findings in primary progressive multiple sclerosis are associated with increased volumes of plaques and atrophy in the central nervous system. Acta Neurol.Scand. 109:100, 2004
3. The correlation of urodynamic findings with cranial magnetic resonance imaging findings in multiple sclerosis. J.Urol. 159:972, 1998