

## URODYNAMIC DIFFERENCES BETWEEN DETRUSOR OVERACTIVITY CAUSED BY MULTIPLE SCLEROSIS AND IDIOPATHIC DETRUSOR OVERACTIVITY

### Hypothesis / aims of study

Multiple sclerosis is the most common neurological disorder in the 20- to the 45-year-old age group that often affects the genitourinary system. Bladder overactivity is a very common disorder and is characterized by involuntary detrusor contractions that may occur spontaneously or may be provoked, while the patient is attempting to suppress them. The most common urodynamic finding of patients with multiple sclerosis (MS) is neurogenic detrusor overactivity (NDO), seen in up to 60% of patients. The aim of the study is to evaluate the urodynamic differences between multiple sclerosis' detrusor overactivity and idiopathic detrusor overactivity (IDO).

### Study design, materials and methods

Urodynamic data were accrued from the Urodynamic Unit of our clinic for a 1-year period. We defined as DO the involuntary rise in detrusor pressure of more than 5 cm H<sub>2</sub>O during filling associated with urgency or bladder fullness. All anticholinergics were stopped 4 days before the urodynamic study. The urodynamic characteristics (filling cystometry) of 21 women with MS were compared with the involuntary contractions found in 25 women with idiopathic overactive bladder syndrome. The DO severity was assessed by measuring the maximal detrusor contraction, the threshold volume for the first involuntary contraction, the amplitude of the first contraction and the maximal bladder capacity. The same investigator interpreted all the urodynamic studies.

### Results

The 21 women had a mean age of 45 years (range 24- 59 years) and had been diagnosed with MS an average of 9,4 years before referral. The maximal detrusor contraction was greater in the women with MS and NDO (54,1 cm H<sub>2</sub>O versus 26,4 cm H<sub>2</sub>O). The amplitude of the first involuntary contraction was also greater in this group of patients (33,7 cm H<sub>2</sub>O versus 18,5 cm H<sub>2</sub>O), as was the threshold volume for the first contraction ( 210 ml versus 134 ml), probably due the significant post void residual volume in patients with MS. The mean maximum bladder capacity was 305 ml versus 376 ml.

### Interpretation of results

Urodynamic characteristics of NDO in patients with MS differ significantly from those of IDO. NDO in patients with MS was of greater amplitude compared with IDO found in a comparable group of women without known neurological problem. Further studies are required to examine if there is a relation between these differences and increased outlet resistance caused by detrusor-sphincter dyssynergia, usually seen in patients with MS.

### Concluding message

NDO in patients with MS was of greater amplitude compared with IDO found in a comparable group of women without known neurological problem.

<b>Specify source of funding or grant</b>	<b>NONE</b>
<b>Is this a clinical trial?</b>	<b>No</b>
<b>What were the subjects in the study?</b>	<b>HUMAN</b>
<b>Was this study approved by an ethics committee?</b>	<b>Yes</b>
<b>Specify Name of Ethics Committee</b>	<b>ethics committee of the university of crete-university hospital of Heraklion</b>
<b>Was the Declaration of Helsinki followed?</b>	<b>Yes</b>
<b>Was informed consent obtained from the patients?</b>	<b>Yes</b>