

## HIGHER INDEX OF SUSPICION FOR NEUROLOGIC DISEASE IS WARRANTED IF RECTAL CONTRACTIONS OCCUR DURING URODYNAMIC TESTING

### Hypothesis / aims of study

Involuntary rectal contractions are commonly observed during multichannel urodynamic testing. An association between this phenomenon and neurologic disease has been suggested in the literature [1]. To further investigate this relationship, rectal contractions and neurologic history were identified prospectively.

### Study design, materials and methods

386 consecutive patients were evaluated prospectively in real time by a single urodynamicist for the presence or absence of rectal contractions during testing. Urodynamics were performed according to ICS standards. 13 patients were excluded for insufficient quality or absent rectal tracing. Rectal contractions were defined as a change in abdominal pressure with confirmed quality tracings in the absence of rectal catheter loss or flatus.

### Results

Rectal contractions were present in 27% of patients with identifiable neurologic risk factors (spinal cord injury or surgery, multiple sclerosis, stroke, closed head injury, Friedrich's ataxia, Parkinson's, myelodysplasia, radiculopathy, spinal stenosis, focal cortical brain lesion, epilepsy, cerebral palsy, or positive neurologic review of systems) and in only 18% of those without neurological disease ( $p=0.05$ ,  $n=373$ ). Rectal contractions were associated with early sensation ( $p=0.02$ ) and the presence of detrusor external sphincter dyssynergia (DESD,  $p=0.05$ ). There was no correlation with urgency or urge incontinence, gastrointestinal disorders, detrusor overactivity, or bladder compliance. Adding repeat testing to the analysis, the percent of studies positive for rectal contractions correlated with the presence of neurologic disease ( $p=0.02$ ) and the presence of DESD ( $p=0.005$ ). A subgroup analysis was performed, distilling neurologic risk to those with no neurologic disease ( $n=149$ ) versus a CLEAR upper motor neuron neurologic injury (spinal cord injury, MS, and myelodysplasia,  $n=87$ ) and excluding patients with equivocal histories (e.g. lumbar disc disease or closed head injury,  $n=137$ ). 32% of those with neurologic disease and 19% of those without had rectal contractions ( $p=0.021$ ). Of the 85 patients in our series who had a study positive for involuntary rectal contractions, four (5%) were diagnosed with neurologic disease AFTER undergoing urodynamic testing.

### Interpretation of results

A higher proportion of those who demonstrate rectal contractions on urodynamic testing have neurologic disease.

### Concluding message

Rectal contractions raise the index of suspicion for neurogenic voiding dysfunction.

Table 1. The presence of rectal contractions versus the presence of neurologic disease or risk

	(+) Neurologic Disease or Risk	(-) Neurologic Disease or Risk	Total
(+) Rectal Contractions	54	31	85
(-) Rectal Contractions	149	139	288
Total	203	170	373

Table 2. The presence of rectal contractions versus clear neurologic disease

	(+) Rectal Contraction	(-) Rectal Contraction	Total
(+) UMN Lesion	28	59	87
(-) UMN Lesion	28	121	149
Total	56	180	236

### References

1. Neurourol Urodyn (1995);14(1):73-80.

<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>Albany Medical Center Internal Review Board</b>
<b>Was the Declaration of Helsinki followed?</b>	<b>Yes</b>
<b>Was informed consent obtained from the patients?</b>	<b>No</b>