

THE CLINICAL SIGNIFICANCE OF RECTAL CONTRACTIONS THAT OCCUR DURING FLUOROSCOPIC URODYNAMIC STUDIES

Hypothesis / aims of study

Rectal contractions (RC) while performing filling cystometry are frequently detected, the clinical significance of RC has rarely investigated [1, 2]. Rectal contractions should be considered to be correlated with neurological disease and non-neurological conditions. This study analyzed the relationship between RC and clinical data.

Study design, materials and methods

A retrospective analysis was performed in 5,026 patients with voiding dysfunction between June 2002 and April 2008. The RC were classified according to the maximal amplitude (higher or lower than 15cmH₂O) and rhythmicity; group I (rhythmic, high, 4.6%), group II (rhythmic, low, 61.2%), group III (random, high, 2.5%), and group IV (random, low, 31.7%). All the clinical and urodynamic data was made in a retrospective setting for lower urinary tract symptoms and past medical history [3].

Results

Rectal contractions were found in 327 patients (188 males and 139 females). The frequency of RC was 6.5% and the mean age was 58.0±15.8 (SD). Each subgroup was categorized as follows: group I (15 patients, 4.6%), group II (200 patients, 61.2%), group III (8 patients, 2.5%), and group IV (104 patients, 31.7%). Rectal contractions were more common in men than in women (p=0.000). No differences were found in the frequency according to age (p=0.596). Severe types of trabeculation were detected in 446 patients, 3,715 patients had no severe trabeculations. No images were performed to the other 865 patients. Of 327 patients with rectal contractions, severe types of trabeculation were detected in 46 patients, 251 patients had no severe trabeculations. No images were performed to the other 30 patients.

Regardless of gender, the bladder compliance was significantly decreased in the patients with RC compared to those without RC (p<0.000). Patients with RC had a higher post void urine volume than those without RC in both sexes; however, this difference was not statistically significant in males. Bladder trabeculations occurred more frequently in males with RC than in those without RC (OR=1.5, [Confidence Interval (CI) 1.03-2.32], p=0.048). The other variables of the UDS were not significantly different between the patients with and those without RC. Furthermore, there were no significant differences in any of the urodynamic results among the four groups classified according to the maximal amplitude and the rhythmicity of RC.

The occurrence of RC had a positive correlation with the presence of cerebrovascular accidents in males (OR=1.9, [CI 1.21-3.05], p=0.005). In females, oligopontocerebellar atrophy (OR=8.3, [CI 0.42-1.43], p=0.004), a history of spinal tumors or other spinal lesions (OR=2.3, [CI 1.05-5.02], p=0.032), and a history of the cauda equine syndrome (OR=10.2, [CI 2.40-43.8], p<0.000) were positively correlated with the frequency of RC. Fecal impaction had no correlation with RC in both genders. The maximal amplitude of RC and its rhythmicity were closely related to the frequency of neurological diseases: group I had a positive correlation with the development of spinal cord injury (SCI) in males (OR=23.0, [CI 2.36-223.84]), bladder trabeculations (OR=6.5, [CI 1.99-43.49]) and vesicoureteral reflux (VUR, OR=16.7, [CI 1.17-238.52]) in females; group II was positively correlated with the presence of an idiopathic overactive bladder (OAB) in both men and women (OR=4.3, [CI 1.43-12.7] in males, OR=7.5, [CI 1.54-36.82] in females) as well as stress urinary incontinence (SUI, OR=4.2, [CI 1.79-10.00]) and mixed urinary incontinence (OR=5.2, [CI 1.68-15.98]) in women. No significant correlation was found with neurological diseases in groups III and IV.

Interpretation of results

Rectal contractions were found in 6.5% (188 males and 139 females). Bladder compliance was decreased and bladder trabeculations were more common in patients with RC. The occurrence of RC was correlated with the development of cerebrovascular accidents in males. Among the females, the occurrence of oligopontocerebellar atrophy, spinal lesions, and the cauda equine syndrome were more common. Group I had a correlation with a spinal cord injury in males, bladder trabeculations and vesicoureteral reflux in females; group II was correlated with an idiopathic overactive bladder in both men and women, stress urinary incontinence and mixed urinary incontinence in females. No correlation was found in groups III and IV.

Concluding message

Rectal contractions were correlated with neurological disease and non-neurological conditions. The identification of a rhythmic RC should be followed by screening for underlying conditions.

Key words

Lower Bowel Dysfunction, LUT physiology, Neurourology: Clinical, Urodynamic techniques

References

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Was the Declaration of Helsinki followed?	Yes

Was informed consent obtained from the patients?

Yes
