

URGE ON BLADDER PALPATION AS A PREDICTOR OF DETRUSOR OVERACTIVITY

Hypothesis / aims of study

Many patients report urgency on transvaginal palpation of the bladder and the diagnostic utility has not been adequately studied. The purpose of this study was to determine the usefulness of urge on bladder palpation during pelvic examination as a predictive test of cystometric detrusor overactivity.

Study design, materials and methods

Six hundred women who had been referred to a tertiary-care academic urogynecology practice were included in the study. The initial evaluation involved uroflowmetry, catheterized residual urine, history, and urogenital examination including single-digit transvaginal bladder palpation. The sensation of urgency during palpation was recorded as a dichotomous variable. Women who met the International Continence Society (ICS) definition for overactive bladder (OAB) were selected for testing with standing single- or multi-channel cystometry (CMG). The other indications for CMG were most commonly stress urinary incontinence, insensible urine loss, and urinary retention. Standardized CMG testing was performed at a follow-up visit. Test indices were calculated based on the result of bladder palpation and the presence of detrusor overactivity.

Results

Five hundred fifty-three women underwent CMG; 97 tested positive for urgency on bladder palpation and 456 tested negative. Detrusor overactivity (DO) was diagnosed in 383 women, making the prevalence of DO in this sample 0.69 (0.65-0.73, 95%CI). The sensitivity and specificity of the ICS definition for OAB were 0.76 (0.73-0.80) and 0.34 (0.30-0.38), respectively. Urgency on bladder palpation predicted DO with a specificity of 0.92 (0.90-0.95) and a positive predictive value of 0.86 (0.84-0.89). The likelihood ratio for a positive result from this test was 2.9 (1.6-5.0). The sensitivity was 0.22 (0.18-0.25) and the negative predictive value was 0.34 (0.30-0.38). The likelihood ratio for a negative result from this test was 0.84 (0.79-0.90). The diagnostic odds ratio was 3.4 (1.8-6.3). Multivariate regression analysis revealed age to be a potential confounding factor and the results were stratified according to age (TABLE).

Interpretation of results

Single-digit transvaginal bladder palpation is useful to perform because urgency on bladder palpation tripled a patient's odds of being diagnosed with DO in a sample of high-prevalence patients. The specificity of bladder palpation more closely approximates CMG testing than does the ICS definition of OAB. The influence of age stratification on specificity was not great and specificity remained high across all age strata. The sensitivity of bladder palpation was not as good as with the ICS definition of OAB and age stratification showed a possible trend toward decreasing sensitivity with increasing age.

Concluding message

Bladder palpation is easy to perform, inexpensive, and without significant risk. The presence of urgency on bladder palpation is a sign that should be considered a predictor of detrusor overactivity on objective testing, to be considered along with LUT symptoms. Testing for urgency on bladder palpation is not an appropriate screening method for DO, especially in high-prevalence elderly individuals, because a negative test cannot confidently exclude the diagnosis of DO.

TABLE. Age Stratified Prevalence of Detrusor Overactivity and Specificity / Sensitivity of Bladder Palpation

Age	N	Prevalence	Specificity	Sensitivity
20-49	45	0.38 (0.24-0.52)	0.93 (0.85-1.00)	0.59 (0.44-0.73)
50-59	118	0.47 (0.38-0.56)	0.88 (0.83-0.94)	0.25 (0.17-0.33)
60-69	116	0.49 (0.40-0.58)	0.98 (0.96-1.00)	0.36 (0.28-0.46)
70-79	112	0.55 (0.45-0.64)	0.96 (0.92-1.00)	0.33 (0.24-0.41)
80-89	108	0.59 (0.50-0.69)	0.98 (0.95-1.00)	0.17 (0.10-0.24)
90-99	49	0.67 (0.54-0.80)	1.00	0.24 (0.12-0.36)

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