

THE PREVALENCE OF INTRINSIC SPHINCTER DEFICIENCY IN PATIENTS WITH STRESS URINARY INCONTINENCE AND URETHRAL HYPERMOBILITY

Hypothesis / aims of study

To determine the prevalence of intrinsic sphincter deficiency (ISD) in female patients with urodynamic stress urinary incontinence (SUI) and urethral hypermobility.

Study design, materials and methods

A urodynamic database query was performed to identify patients within a urogynecologic referral practice¹ who were assigned primary diagnoses of SUI or ISD between January 1998 and December 2003. Intrinsic sphincter deficiency was defined as a maximum urethral closure pressure (MUCP) of ≤ 20 cm H₂O or a vesical leak-point pressure (VLPP) of ≤ 60 cm H₂O. Urodynamic testing was performed with the patient in the standing or sitting position. Maximum urethral closure pressure (MUCP) was measured at maximum cystometric capacity. Vesical leak point pressure (VLPP) was most commonly measured at a volume of 250 cc using Valsalva as a provocative maneuver. Urethral mobility was assessed by cotton swab testing. Hypermobility was defined as a straining angle of > 30 degrees from horizontal. Patients were excluded if they exhibited any evidence of detrusor activity on cystometrogram. Data collected included age, weight, estrogen status, MUCP, VLPP, resting angle, deflection angle, and straining angle. Ordinal data was analyzed with a two-tailed *t* test and nominal data by chi-square analyses.

Results

Two hundred ninety-one patients comprised the final sample. Two hundred forty-eight (85.2%) exhibited urethral hypermobility. Fifty-nine (23.8%) of those with hypermobility had ISD as defined by MUCP and 61 (24.6%) had ISD as defined by VLPP. Overall, 87 (35.1%) of 248 patients with urethral hypermobility exhibited ISD as defined by MUCP and/or VLPP. By comparison, 30 (69.8%) of the 43 subjects without hypermobility (straining angle of ≤ 30 degrees) exhibited ISD by MUCP and/or VLPP. Women without urethral hypermobility were found to be significantly older ($p < .001$), and more likely to be hypoestrogenic ($p < .001$) than those with hypermobility.

Interpretation of results

The prevalence of ISD in patients with SUI and urethral hypermobility appears to have the potential for clinical significance, and may be more meaningful if one considers the confounding effects of age and estrogen status on the prevalence of ISD in those without hypermobility.

Concluding message

More than one-third of women with urodynamic stress urinary incontinence and urethral hypermobility exhibit intrinsic sphincter deficiency, warranting appropriate urodynamic evaluation of all patients considered for surgical intervention.