What is an evidence-based appropriate workup?

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Abstract

At the present time, there is no evidence-based guidance available for workup of stress urinary incontinence (SUI). In the absence of such evidence, we must rely on expert consensus, which dictates that a workup should typically include documentation of SUI, assessment of impact on the patient, and information on voiding function. Typical assessment may need to be adjusted for more complicated populations (e.g., those with mixed incontinence, those who have failed previous treatment).

The appropriate workup of stress urinary incontinence (SUI) can vary substantially depending on the patient profile. The appropriate evaluations to conduct for an individual with no complicating factors and who presents with SUI prior to surgical intervention, would differ from those evaluations recommended for a patient with mixed urinary incontinence (MUI) or someone who had already failed SUI surgery. This review will briefly discuss the recommendations for workup for both the uncomplicated patient and for other specific populations.

Typical evaluation

There is currently no evidence-based appropriate workup for an uncomplicated woman presenting with SUI prior to surgical intervention. The recommendations of the American Urological Association (AUA) Guideline Panel on Female SUI (1997) are shown in Table 1.[1] However, these guidelines may be hard to follow for practical reasons. There are some elements that should be included in the workup, including a detailed history (which can include the use of questionnaires and/or a voiding diary), physical examination and simple tests.

History

Elements to look for in the history are the type, timing and severity of the symptoms, the patient's perception of the incontinence, associated symptoms (e.g., pain, blood in urine) and past urologic surgery. One should also assess patterns of fluid intake (e.g., type, amount, timing), the use of medications, any concomitant medical conditions and environmental conditions (e.g., location and structure of bathroom). For patients who are deemed likely to comply with this request, one should obtain a three- to seven-day voiding diary. For elderly patients, additional elements to consider are the patient's functional level and cognitive state (each of which can be assessed using standardized tools).

Questionnaires

Questionnaires can be helpful in providing these and other details about the patient's symptoms and perception thereof, but are not often used because they are judged to be too time-consuming, poorly understood by patients, or both. Still, there are a number of questionnaires to choose from, including comprehensive tools like the SEAPI QMM[2] and shorter, validated questionnaires, such as the seven-item Incontinence Impact Questionnaire (IIQ-7) and the six-item Urogenital Distress Inventory (UDI-6).[3] Non-incontinence-specific questionnaires may also be helpful to assess specific aspects of health (e.g., quality-of-life).

Physical examination

Physical examination for SUI should include neurologic status (e.g., reflexes, sensation, back scars), abdominal examination (e.g., bladder distension, scars, flank), and vaginal examination. The latter should include an assessment of urethral support/mobility, a stress test (supine/standing), pelvic organ prolapse quantification (POP-Q) measurements, uterus, ovaries, pain, mesh material and discharge. One should also consider looking for vaginal scars and assessing pelvic muscle tone.

Simple tests

Regular workup for SUI can include urinalysis, voided volume, maximum flow and flow pattern, and residual volume. However,

Table 1. 1997 AUA guideline panel on female SUI: Recommendations for workup*

- Structured micturition history or questionnaire at each follow-up
- Physical exam with full bladder at appropriate intervals
- Voiding diary for each follow-up
- Pad test for each follow-up
- Urinalysis and post-void residual at least once and at appropriate intervals
- *De novo* symptoms
- Complications and morbidities

AUA: American Urological Association; SUI: stress urinary incontinence.
*Adapted from Leach et al. Female Stress Urinary Incontinence Clinical Guidelines Panel summary report on surgical management of female stress urinary incontinence. The American Urological Association. *J Urol* 1997;158(3 Pt 1):875-80.

one has to be practical when deciding which tests to perform. For example, one cannot obtain a urinalysis and flow at the same time.

The recently completed Value of Urodynamic Evaluation (ValUE) trial[4] should provide valuable evidence-based guidance on workup of SUI. Patients in the study received an office-based evaluation before being randomized to one of two groups: one group underwent urodynamic testing and the second did not.

Considerations for specific populations

In more complicated patients (e.g., those with mixed and/or recurrent incontinence), there is even less evidence upon which to base the plan for workup. For recurrent incontinence, most experts rely on urodynamic testing to evaluate the incontinence mechanism(s) and to assess voiding function, while others add imaging studies (e.g., voiding cystogram) or turn to video-urodynamic testing when available at their centres. Urethro-cystoscopy may also have a role in evaluating for urethral tape erosion or changes related to prior therapies.

Of the most notable recent findings (level I evidence) regarding urodynamic studies published by the Urinary Incontinence Treatment Network, it is important to cite: (1) the lack of correlation between measures of urethral function (Valsalva leak point pressure [VLPP] and urethral pressure profile [UPP]) with subjective or objective measures of urinary incontinence severity,[5] and (2) the more obstructive nature of a sling over a colposuspension procedure.[6]

Discussion

Because the evidence base for investigation of SUI is so limited, guidance on workup of SUI should come from expert consensus. Whatever particular investigations are selected, one needs to keep the following key goals in mind: to document SUI; to assess how bothersome and disabling the urine loss is for the patient; and to obtain information on voiding function (should the treatment considered be at risk of increasing outlet resistance).

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