

PURE STRESS URINARY INCONTINENCE: ANALYSIS OF THE PREVALENCE, ESTIMATION OF COSTS AND FINANCIAL IMPACT.

Hypothesis / aims of study

The prevalence of pure stress urinary incontinence (P-SUI) and the role of urodynamic (UD) test prior surgery for stress urinary incontinence (SUI) have been under debate in the last years (1). Since is not clear the exact prevalence of P-SUI, its clinical and economical impact is not well defined.

The aim of this study was to evaluate the prevalence of P-SUI in a population of women underwent UD for urinary incontinence (UI). We also assessed the correspondence between clinical diagnosis of P-SUI and urodynamics findings.

The other objective of the study was the analysis of the amount of cost of the urodynamic tests in this cohort, the number of avoided surgical procedures due to the UD results and the related costs saved.

Study design, materials and methods

An electronic database was used to identify women who had UD for UI between January 2012 and July 2016. Urodynamic tests were performed according to The Good Urodynamic Practice (2).

P- SUI was defined by International Continence Society (ICS) criteria (Table 1). A very experienced urologist prior to the UD took history and physical examination of patients and evaluated the correspondence between clinical and urodynamic P-SUI. We evaluated the number of women in whom the clinical diagnosis of P-SUI was changed after the execution of UD. Moreover, we estimated the number of unnecessary intervention after UD.

We estimated the exact cost of a single urodynamic investigation including human resources (one medical doctor, one nurse) and all the materials used in a UD test. An additional economical evaluation was performed considering the National Health System refund. Moreover, it has been calculated the total amount of expense saved avoiding unnecessary surgical procedures due to UD results.

Inclusion and exclusion criteria of P-SUI	
Inclusion criteria	Exclusion criteria
<ul style="list-style-type: none"> • 21 years old • Stress predominant urinary incontinence • History of symptoms of stress urinary incontinence for at least 3 months • PVRV < 150 ml • Negative urinalysis or urine culture • Clinical assessment urethral mobility • Desire of surgery 	<ul style="list-style-type: none"> • Pain • Haematuria • Recurrent infections • Voiding symptoms • Pelvic irradiations • Radical pelvic surgery • Suspected fistula

Table 1: International Continence Society Criteria for Pure SUI
PVRV: Post Void Residual Volume

Results

Stress urinary incontinence was present in 323/544 (59.4%) patients. The prevalence of P-SUI was 20.7% (67/323), while the prevalence of complicated SUI (C-SUI) was 79.3% (256/323). As a consequence, diagnosis of P-SUI decreased to 18.3% (59/323) after urodynamics. The cost of each UD study was 383 euros and the total amount for the entire cohort was 25.661 euros. Considering the National Health System refund the cost of each UD was 296,5 euros and the total amount was 17.493,5 euros. In 10.2% of the cases (6/59) the scheduled middle urethral sling (MUS) was avoided because of UD results. In 3/6 cases detrusor overactivity and urge incontinence were prevalent, in 2/6 cases SUI was treated with a conservative management, in 1/6 cases there was an important voiding dysfunction. So far, the total amount saved due to UD findings was 10800 euros and considering the refund provided by the National Health System.

Interpretation of results

In our study the prevalence of P-SUI is in the range reported in literature (5.2-36%). The high rate of P-SUI has been attributed to the lack of expertise on the part of clinicians (3). The potential mistake linked to the less experience in taking a complete urological history was avoided by the expertise of selected urologist. This choice can explain our lower rate of PSUI if compared to other higher literature data. The published data on correspondence between clinical and urodynamics P-SUI has been very controversial, ranging from 99% to 60%. Our data are show a high correspondence. We avoided a relevant number of unnecessary surgical procedures due to the urodynamic findings (10%) Moreover, although the total expense for the UD in P-SUI patients exceed the cost saved due to unnecessary surgical procedures, the clinical relevance of UD prior SUI surgery seems to be still very crucial.

Concluding message

Our results showed that the prevalence of P-SUI is relevant, involving about 20% of the women with clinical SUI. The correspondence between clinical and urodynamic diagnosis was high, but we demonstrated that in a considerable number of

patients an inappropriate treatment was avoided on the basis of urodynamic results. Also even if the execution of a UD involves an economic burden, it should be emphasized the very important clinical role of UD. Therefore, we consider UD prior SUI surgery still useful to achieve a correct counseling of patients and to avoid unnecessary surgical procedures. Therefore, we consider UD a crucial step for all the patients candidates to SUI surgery. In particular it is useful for both a correct counseling that for avoid unnecessary surgical procedures.

References

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2. Good urodynamic practices: uroflowmetry, filling cystometry, and pressure-flow studies. Schäfer W, et al. Neurourol Urodyn. 2002;21(3):261-74.
3. Urodynamics useless before surgery for female stress urinary incontinence: Are you sure? Results from a multicenter single nation database. Serati M, et al. Neurourol Urodyn. 2016 Sep;35(7):809-12.

Disclosures

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