

FEELING OF INCOMPLETE EMPTYING AND POST VOID RESIDUAL URINE VOLUME. IS THERE ANY RELATIONSHIP?

Hypothesis / aims of study

There is currently little evidence of the importance of feeling incomplete emptying in our daily practice, not having enough literature which analyses this symptom included in questionnaires. The aim of this study is to assess the level of concordance and validity between this feeling and a high post void residual urine volume (PVR).

Study design, materials and methods

A cross-sectional study between december 2016 to january 2017 was performed among patients who came to our hospital to undertake an urodynamic test. They gave us information about whether or not they had feeling of incomplete emptying by filling out a questionnaire based on the first question of the International Prostate Symptom Score (I-PSS). Prior to urodynamic study, all patients performed an uroflowmetry with posterior catheterization, as the gold standard to measure PVR. We considered high PVR over 50 cc of urine volume ⁽¹⁾.

The validity of the feeling of incomplete emptying to help diagnostic orientation was analyzed assessing the sensibility, specificity and the positive and negative predictive value.

In those patients who referred feeling of incomplete emptying, we carried out a descriptive analysis including sex, age, presence of recurrent urinary tract infections (UTIs), diabetes, urodynamic diagnoses, treatment with drugs related to lower urinary tract (alpha-blockers, antimuscarinics, β 3-adrenoceptor agonists, 5-alpha-reductase inhibitors, antidepressants, benzodiazepines and botulinum toxin) and history of previous pelvic surgery.

We also compared the relationship between the variables above mentioned and the PVR urine volume obtained, dividing patients in two groups, those with PVR between 50-99 cc and those with more than 100 cc.

The exclusion criteria were: under 18 years of age, no intellectual capacity to read, understand and respond to the questionnaire as well as no previous diagnoses of neurogenic bladder.

Results

39 patients were included in the study, 12 (30,8%) were men and 27 (69,2%) women. The mean age was 50 years (SD 13,19). 85% of the patients presented feeling of incomplete emptying, and a high post void residual urine volume was quantified in 36% of the total cohort.

The specificity of this symptom was 24,0% (IC 11,5%-43,4%), sensitivity was 100% (IC 78,5%-100%), positive predictive value 42,4% (IC 27,2%-59,2%) and negative predictive value 100% (IC 61,0%-100%). The degree of concordance of the feeling of incomplete emptying with high PVR was 0,18 (IC -0,08-0,45).

In those patients who referred feeling of incomplete emptying, 42% presented PVR. 35,7% referred previous pelvic surgery and 76,8% was in treatment with a drug from those described previously.

The 57,1% presented a PVR between 50-99 cc while 42,9% presented more than 100cc. According to urodynamic diagnosis, 33,3% of the patients who referred feeling of incomplete emptying was diagnosed as bladder outlet obstruction, 27,3% as detrusor overactivity, 9,1% as sensory dysfunction, 24,2% as detrusor hypocontractility and 6,1% as stress urinary incontinence.

When sub-stratifying patients according to PVR volume, there was no statistically significant association with age, diabetes, presence of recurrence UTIs, urodynamic diagnoses or treatment with drugs related to lower urinary tract.

Interpretation of results

Having feeling of incomplete emptying should not replace other complementary tests in order to achieve a correct urodynamic diagnose. According to our results, the sensitivity of this symptom is high although specificity is low. For this reason, most of the patients with a feeling of incomplete emptying do not have a high PVR. Therefore, the feeling of incomplete emptying is not predictive of high PVR. However, the lack of this feeling does seem to confirm the absence of a post void residual.

Concluding message

The feeling of incomplete emptying did not show statistically significant correlation with PVR. In the subgroup analysis, PVR was not associated with age, diabetes, recurrent urinary tract infections, previous pelvic surgery, urodynamic parameters or medication during the study. More evidence is needed to establish the relevance of this symptomatology.

References

1. Oelke, M., et al. Diagnostic accuracy of noninvasive tests to evaluate bladder outlet obstruction in men: detrusor wall thickness, uroflowmetry, postvoid residual urine, and prostate volume. *Eur Urol*, 2007. 52: 827

Disclosures

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