

HOW PAINFUL ARE URODYNAMIC INVESTIGATIONS? CAN WE CHANGE THIS?

Hypothesis / aims of study

Urodynamic investigations are known to be uncomfortable for patients. We aimed to assess the incidence and quantify the severity of pain endured during this procedure. We then evaluated the effect of changing the type of catheter used on the pain reported by the women.

Study design, materials and methods

50 consecutive women consulting for urinary incontinence or urogenital prolapse were first evaluated. Urodynamics included standing filling cystometry at 50 ml/min and half-sitted automated pull-through resting and stress urethral pressure profile measurements with a 10F micro-tip silicone coated electronic probe. Thereafter, we changed our set to single-use 9F polyurethane catheters. Intensity of pain was determined on a 0-10 cm visual analogue scale (VAS) at the end of a conventional urodynamic investigation. Demographic data and results of urodynamic investigations were recorded.

Results

Participants had a mean age of 51.8 years, sd 12.5. Percentage of menopausal women was 49%, of which only 25% had hormonal substitution. Pure stress incontinence was reported by 49% of women, urge incontinence by 12%, and mixed stress and urge incontinence by 39%. ICS urogenital prolapse stage was 0 for 12% of the women, I for 43%, II for 31%, and III for 14%. On urodynamic investigations, 24% had a hyperactive bladder and none an intrinsic urethral sphincter deficiency. There was no significant differences in the baseline data between the groups.

Only one woman was unable to use the VAS. With the first type of catheters (multi-use microtip 10F), the median pain severity was 4.0 cm, p25-p75 2.0 to 6.0 cm. Only two (4.1%) women reported no pain at all (VAS = 0). Significant pain (VAS \geq 3cm) was reported by 32 women (65.3%, 95% confidence interval 51.5% to 79.1%). In our population, no factor (age, symptoms, menopause, urogenital prolapse, urodynamic findings) seemed to predict the severity of pain. With the single-use 9F catheter, the median pain severity was 1 cm, p25-p75 1.0 to 3.0 cm. No pain at all was reported by 15.4% of the women and significant pain by 31%.

The severity of pain was significantly lower with single-use 9F polyurethane catheters, $p=0.002$. The relative risk of having no pain at all was 0.26 (95%CI 0.04-1.67, $P=0.13$). The relative risk of severe pain was 2.77 (95%CI 1.01-7.65, $P=0.008$).

Interpretation of results

We have demonstrated that urodynamic investigations are associated with significant pain in a large proportion of women. This pain can be reduced by changing the material and using thinner and more flexible catheters.

The comparison of the material in our study was not randomised and not blinded. However, the difference in the perception of pain by the patients and the nurses is so important that we believe a randomised trial unfair.

Concluding message

Urodynamic investigations are associated with significant pain in a large proportion of women. Evaluating interventions to reduce this iatrogenic side-effect is warranted in order to improve the quality of care and patient's satisfaction.