

A QUESTIONNAIRE STUDY OF PATIENTS' EXPERIENCE DURING NON-INVASIVE URODYNAMICS.

Hypothesis / aims of study

The penile cuff test is a novel non-invasive pressure – flow study (PFS) involving automated inflation of a pneumatic penile cuff to interrupt voiding (1). Early clinical experience using the device suggested that patients found it acceptable and preferable to conventional invasive PFS (1). The present study aimed to confirm the favourable patient experience of the device using a questionnaire previously developed for conventional urodynamics (2). The validity of this questionnaire when applied to the non-invasive technique was also assessed.

Study design, materials and methods

The questionnaire, which assesses patients' experience of urodynamic studies in the 5 domains of anxiety, embarrassment, pain, distress and willingness to have the test repeated, was adapted for use in the UK and applied to patients who had undergone a penile cuff test. Each question required a rating on a 100 mm visual analogue scale (VAS).

A total of 20 consecutive men attending the department for investigation of lower urinary tract symptoms who consented to undergo a penile cuff test and to complete the questionnaire were recruited. Following the cuff test, the patient was left to self-administer the questionnaire in private after simple instruction from the research nurse. The subjects were then interviewed by an independent blinded researcher who completed the questionnaire with the patient, giving a second set of ratings for the 5 domains. Differences between the two sets of responses were examined using the weighted Kappa statistic. A second group of 22 men attending for invasive PFS agreed to complete the questionnaire in a similar fashion and differences between patient and observer-assisted scores were again assessed. Scores for the penile cuff test were then compared with those obtained in the group undergoing invasive PFS by Student's t-test. If patients in the penile cuff test group had previously attended for invasive cystometry they were asked to express a preference for one or other of the tests.

Results

All patients completed the questionnaire (n=42). There was excellent agreement between scores using self-completion and those obtained during the observer-led interview with weighted Kappa values in the non-invasive group ranging from 0.65 (anxiety) to 0.96 (embarrassment). Similar Kappa values were seen for invasive PFS ranging from 0.60 (willingness to repeat) to 0.89 (embarrassment). The agreement was consistent throughout all five domains for both the invasive and non-invasive test groups (Figures 1 and 2).

Figure 1: Non-invasive urodynamics (Mean VAS scores)

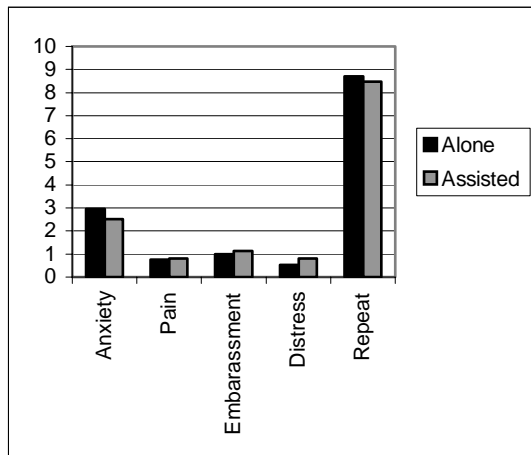
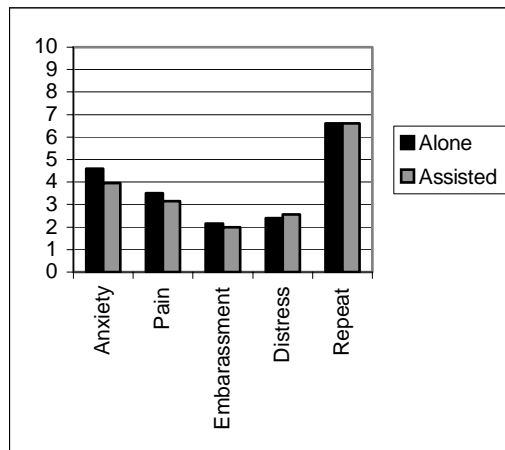
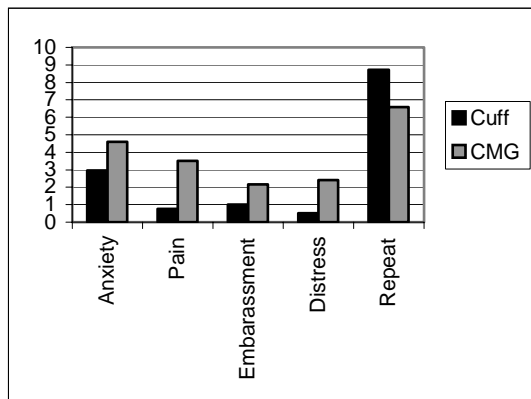


Figure 2: Invasive urodynamics (Mean VAS scores)



Comparison of self-administered ratings recorded by men having a penile cuff test with those from the invasive urodynamics group showed a statistically significant decrease in both pain ($P < 0.01$) and distress ($P < 0.01$). Furthermore men undergoing a penile cuff test showed increased willingness to have the test repeated ($P < 0.03$). In contrast, differences in the domains of anxiety and embarrassment were not statistically significant (Figure 3). In a subset of 8 patients from the penile cuff test group who had previously undergone invasive urodynamics, 75% preferred the penile cuff test.

Figure 3: Comparison of Mean VAS scores for men undergoing penile cuff test (cuff) and invasive PFS (CMG).



Interpretation of results

The close agreement between self-administered and interviewer-administered ratings for both invasive and non-invasive PFS suggests that this questionnaire gives a reproducible account of the patient's experience of urodynamic investigations across the 5 domains examined. The questionnaire therefore represents a useful tool which can be self-administered by the patient to assess the acceptability of differing urodynamic investigations. The comparative data, although obtained from a different sample, suggest that non-invasive urodynamics are perceived as causing less pain and distress than invasive studies and consequently men are more willing for the test to be repeated. The smaller differences found in scores for anxiety and embarrassment suggest that such feelings result from features common to both types of studies, such as voiding in a clinical environment and 'performance anxiety'. The sensitivity of the questionnaire to detect differences only in expected domains, such as pain and distress and willingness to repeat, adds an element of construct validity. This is re-inforced by the similar scores in the domains assessing features common to both techniques.

Concluding message

Our findings support the use of this simple questionnaire for the evaluation of urodynamic investigations. The penile cuff test causes less pain and distress than conventional PFS and is consequently preferred by patients.

Acknowledgement

We thank Jongno Ku, Department of Urology, Seoul National University College of Medicine, Seoul, Korea for permission to adapt and use their questionnaire in our study.

References

- 1 Non-invasive techniques assessment of bladder contractility in men. J Urol 2004, 172, 11394-1398.
2. Patients experience in a urodynamic study: a prospective study in 208 patients. J Urol 2004, 171, 2307-2310.