

Thursday 26 June 10.30–11.30

Poster Session 14: BPH 2

Chairmen: A. Dobie and D. Moss

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Noninvasive estimation of bladder pressure using a penile cuff. The new pressure-flow study?

C.H. BLAKE, L. BALDRY, A. HASSINE and P. ABRAMS
Bristol Urological Institute, Southmead, Bristol, UK

INTRODUCTION

A noninvasive technique to measure bladder pressure is being developed using a penile cuff inflated during the voiding cycle [*J Urol* 2002; **167**: 1344–7]. We are currently undertaking a study to validate the method and to assess its role as a partial replacement for 'invasive' pressure-flow studies.

PATIENTS AND METHODS

Men with LUTS were recruited; a specially designed penile cuff was placed around the penis and inflated during voiding using the new technique [McIntosh *et al.* Proceedings of the ICS 2002: 97]. Simultaneous intravesical

pressures were recorded using a fluid-filled catheter.

RESULTS

Data on the first 75 (mean age 66 years, range 47–81) of 120 patients investigated with a simultaneous cuff test and invasive pressure/flow study yielded 111 separate inflation cycles suitable for analysis. The mean (range) measured cuff pressure at flow interruption of 107 (40–200) cmH₂O was on average 1 (20) cmH₂O greater than isovolumetric bladder pressure, with a correlation coefficient of 0.84. The test is simple and straightforward and produced analysable data in 61 of 75 (81%) patients.

CONCLUSIONS

Our results show that this technique can be used to measure isovolumetric bladder pressure and therefore gives information about bladder contractility. The overestimation is less than that reported previously. It seems likely that this technique could replace pressure-flow studies in a subset of patients with low free flow rates and high noninvasively measured bladder pressure.

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Self-management interventions for men with uncomplicated LUTS: a pilot study

C.T. BROWN, J. COE, J. van der MEULEN*, S. NEWMAN†, A.R. MUNDY* and M. EMBERTON

*Clinical Effectiveness Unit, Royal College of Surgeons, *Institute of Urology and Nephrology, and †Centre for Behavioural and Social Sciences in Medicine, UCL, London*

INTRODUCTION

Treatment decisions in men with uncomplicated LUTS are based on symptom severity and the bother they cause. New patients with LUTS are usually given two options, i.e. conservative (watchful waiting) or medical therapy. The use of lifestyle and behavioural interventions for symptom control in these men is varied. A formal self-management programme of lifestyle and behavioural interventions has been

developed and is assessed in this pilot study for acceptability, feasibility and effectiveness.

PATIENTS AND METHODS

Twenty-five patients (mean age 64 years, range 42–86) with newly diagnosed uncomplicated LUTS attended a nurse-led self-management programme consisting of three small group sessions held over 6 weeks.

The programme content was standardized education (about LUTS, the prostate and bladder), reassurance (expected future symptoms, prostate cancer risk), lifestyle modifications (fluid, caffeine and alcohol advice, concurrent medication re-scheduling, avoiding constipation) and behavioural changes (double-voiding, strategies for dribbling, and bladder re-training). Interventions targeted the most bothersome symptoms through problem solving and goal setting.

RESULTS

The sessions were rated very or extremely acceptable by all patients; 22 (88%) were confident of continuing their lifestyle changes or behaviours until their 4-month review. One patient failed to complete all three sessions. There was a significant reduction in IPSS, AUA QoL score and the

number of episodes of nocturia ($P < 0.001$). There was also a significant increase in the mean voided volume per void calculated from a 4-day frequency/volume chart ($P < 0.001$).

The mean (95% CI) results before and after attending the self-management programme

CONCLUSION

Self-management interventions for men with uncomplicated LUTS delivered in nurse-led small groups are acceptable, feasible and early data shows them to be effective in reducing LUTS and the bother they cause. The results of this pilot study have informed the design of a prospective single-blinded randomized controlled trial comparing self-management with standard therapy.

Funding: Royal College of Surgeons Research Fellowships (Cazenove & Co.)

Variable	Baseline	8 weeks	P	Mean reduction from baseline/patient
IPSS (0–35)	19.2 (16.8–21.5)	9.5 (7.2–11.7)	< 0.001	9.7 (7.0–12.4)
AUA QoL score (0–6)	4.0 (3.5–4.5)	2.3 (1.8–2.8)	< 0.001	1.7 (1.1–2.3)
BPH Impact Index (0–13)	5.6 (4.6–7.2)	3.8 (2.7–4.8)	0.003	1.9 (0.7–3.1)
Fluid intake/24 h, mL	1904 (1532–2276)	1671 (1443–1900)	0.168	232 (–108 to 574)
Voided volume/24 h, mL	1517 (1225–1810)	1491 (1267–1716)	0.829	– 26 (–225 to 227)
No. voids/24 h	8.8 (7.3–9.9)	6.8 (5.9–7.8)	< 0.001	2.0 (1.3–2.7)
Voided volume/void, mL	178 (146–210)	232 (188–276)	< 0.001	– 54 (–82 to 26)
No. urgent episodes/24 h	2.7 (1.8–3.5)	1.0 (0.1–2.0)	< 0.001	1.6 (1.0–2.3)
No. episodes nocturia/24 h	2.4 (1.8–2.9)	1.0 (0.7–1.5)	< 0.001	1.3 (0.8–1.8)

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A new use for serum PSA level

N.K. LYNN, P. MAHESHKUMAR, A. CHAUDHRY, M. SAXBY, L. SAMSON and M.E. FRENCH
 Department of Urology, City General Hospital, Stoke-on-Trent, Staffs, UK

INTRODUCTION

Serum PSA has been regarded as a reference standard tumour marker for prostate cancer. We assessed the use of serum PSA in the treatment of BPH, specifically for predicting resected volume, time taken to resect and blood loss within 24 h after TURP.

PATIENTS AND METHODS

The study included 121 men who underwent TURP for BPH (histologically confirmed afterwards). Serum PSA was measured before TURP, the resected prostate weighed and haemoglobin levels measured before and 24 h after TURP. Spearman's correlation

coefficients were calculated for age, PSA, resected weight (W), time to perform TURP (T) and change in haemoglobin levels (H). The difference in serum PSA level in men with large (> 60 g resected weight) and small prostates were determined using the Mann-Whitney *U*-test. Receiver operating characteristic (ROC) curve analysis was used to assess whether PSA can be used to predict a large resected volume.

RESULTS

The mean (95% CI) age, PSA, W, T and H were 69.9 (52–87) years, 7.05 (5.7–8.4) ng/mL, 33.8 (4.0–121.0) g, 30.9 (28–33.78) min and 17.5 (14.5–20.5) g/L, respectively. The mean

resection time was 1.2 (0.99–1.31) g/min. There were good correlations between PSA and W, T and H, with ρ values of 0.632, 0.519 and 0.44 (all $P = 0.01$). PSA values were significantly higher in men with larger resected prostate ($P = 0.001$). The mean (SEM) area under the ROC curve of PSA in predicting a large prostate was 0.837 (0.39). The best threshold on the ROC curve to predict a large prostate was at a PSA of 6.9 ng/mL, giving a sensitivity of 84% and specificity of 78%.

CONCLUSION

The serum PSA level can be used reliably to predict the resected volume, resection time and blood loss in men who undergo TURP.

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Community management of acute painful urinary retention

S.S. GOPI, P.N. RAO and P. DOWNEY

*South Manchester University Hospital, Wythenshawe, Manchester, UK***INTRODUCTION**

The current management of acute urinary retention in men is catheterization, hospital admission, α -adrenergic therapy and a trial without catheter (TWOC). To reduce inpatient bed pressure we devised a protocol to manage such patients in the community and review our results.

PATIENTS AND METHODS

We prospectively assessed patients presenting with acute painful urinary retention to our emergency department between December 2001 and May 2002. Patients with chronic

retention, macroscopic haematuria, sepsis, UTI and/or a serum creatinine of >1300 mmol/L were excluded from the study. Those included were catheterized, commenced on alfuzosin (10 mg at night) and discharged home. They had a TWOC 5–10 days later, which was repeated in those failing their initial TWOC. The IPSS and QoL, peak flow rate and residual volume were assessed after a successful TWOC and again 3 months later.

RESULTS

In all, 50 men (mean age 68 years) were assessed; their mean residual volume was 600 mL. The TWOC was successful in 36

patients (72%) after the first TWOC, rising to 42 (84%) after the second. In these patients the mean (range) peak flow rate was 15 (5–17) mL/s, the postvoid residual 60 (5–200) mL, the symptom score 6 (4–8) and the QoL good after the TWOC and at the 3-month follow up.

CONCLUSION

This study suggests that acute painful urinary retention can be safely and effectively managed in the community.

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The effect on detrusor contractility and obstruction grade of repeated bladder filling in a conventional pressure flow study

U.F. SHARIFF, V. KUMAR, C.R. CHAPPLE and D.J. ROSARIO

*Royal Hallamshire Hospital, Sheffield, Yorks, UK***INTRODUCTION**

The pressure-flow study (PFS) provides the 'gold standard' for defining BOO. Controversy surrounds the effect of repeated artificial filling on detrusor contractility, and the number of fill and void cycles required to define obstruction. This study was conducted to evaluate the effects of repeated fill-void cycles on obstruction grade and contractility.

PATIENTS AND METHODS

Forty-three urodynamically naïve men with LUTS suggestive of BOO underwent a

medium-fill (30 mL/min) PFS under strict ICS criteria. Three consecutive fill-void cycles were used. The Schafer-defined detrusor contractility and obstruction coefficient were calculated for each void. The results were analysed statistically using a nonparametric (Wilcoxon paired) test.

RESULTS

Contractility grade decreased significantly ($P < 0.04$) between the first and second void, but not between the second and third. The obstruction grade decreased between the first and second void ($P < 0.005$) and further

between the second and third ($P < 0.006$). Of 10 men with equivocal obstruction (Schafer 2), six were classified as unobstructed on subsequent voids.

CONCLUSION

The detrusor contractility decreases significantly on repeated fill-void cycles, with the maximum reduction between the first and second cycles. A single-fill void will adequately define the BOO in most cases. In equivocal cases subsequent fill-void cycles may help in clinical decision making.

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Anaemia predicts the recovery of renal function in men with high-pressure chronic retention

N.K. LYNN, S. LIU, P. MAHESHKUMAR, M. SAXBY and M.E. FRENCH

*Department of Urology, City General Hospital, Stoke-on-Trent, Staffs, UK***INTRODUCTION**

Although catheterization results in diuresis, recovery of renal function is not complete in some patients with high-pressure chronic retention (HPCR). We studied the role of haematological, biochemical and clinical data at the time of presentation in predicting the normalization of renal function.

PATIENTS AND METHODS

Ninety-five men who presented with HPCR were assessed; all were catheterized. A serum creatinine level of < 120 mmol/L was used to define recovered (R) and not recovered (NR) groups. Age, residual urine volume (RU), haemoglobin level (Hb), white cell count (WBC), platelet count (Plt), sodium (Na), potassium (K), urea (U), creatinine (Cr), change in serum urea level (Δ U) and change in serum creatinine (Δ Cr) in first 24 h were investigated as potential variables. The Mann-Whitney *U*-test and receiver operating characteristic

curve analyses were used to determine the diagnostic potentials of these variables.

RESULTS

Fifty-eight men (61%) were treated with TURP and the rest with permanent indwelling catheters. The results of the analyses were:

Variable	Mean	(95% CI)
Follow-up, days	108.8	(95.1–122.5)
Age, years	76.8	(75.3–78.4)
RU, mL	1430	(1278–1529)
Hb, g/L	119.6	(115–124)
WBC, $\times 10^9$ /L	10.37	(9.5–11.26)
Plt, $\times 10^9$ /L	266.7	(244.1–289.4)
Na, mmol/L	137.9	(136.9–138.8)
K, mmol/L	4.96	(4.8–5.2)
U, mmol/L	23.4	(20.2–26.5)
Cr, μ mol/L	429.5	(354.9–504.1)
Δ U, mmol/L/day	– 3.5	(–5.4 to –1.6)
Δ Cr, μ mol/L/day	– 122.4	(–165.0 to –79.65)

There was a statistically significant difference in Hb ($P < 0.001$), WBC ($P = 0.004$), U ($P = 0.012$) and Cr ($P = 0.008$) between the R and NR groups. Areas under the curves for Hb, WBC, U and Cr were 0.86, 0.68, 0.34 and 0.334, respectively. Hb at 107 g/L gave a sensitivity of 89% and specificity of 74% in predicting the recovery of renal function.

CONCLUSION

The haemoglobin level at the time of presentation can be used to predict the recovery of renal function in these men.

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Long-term follow-up after presentation with a first episode of acute urinary retention

A.D. MARTINDALE, I.D.C. MITCHELL*, S. RIVSI†, T.B. HARGREAVE and S.A. McNEILL

*Department of Urology, Western General Hospital, Edinburgh, *Borders General Hospital, and †Dumfries & Galloway Hospital, UK***INTRODUCTION**

We reported that slow-release (SR) alfuzosin improves the chances of a successful trial without catheter (TWOC) after acute urinary retention (AUR) [*BJU Int* 1999; **84**: 622–7]; we report the long-term outcome of these patients.

PATIENTS AND METHODS

Eighty-one patients presenting with painful AUR were enrolled in a prospective, randomized, placebo-controlled trial of the

effect of SR alfuzosin on the outcome of TWOC. Hospital records of all patients who had a successful TWOC were reviewed.

RESULTS

Overall, 34 patients (42%) voided successfully, 22 of 40 (55%) with SR alfuzosin and 12 of 14 with placebo ($P = 0.03$). Of the 34 patients who had a successful TWOC 11 (32%) had a further episode of AUR, a mean (range) of 4.1 (1 day to 1.2 years) after discharge. Twelve patients have undergone bladder outlet surgery (seven after a further episode of AUR)

at a mean (range) of 7.9 (0.5–37) months after discharge. Eighteen patients (53%) had had neither further AUR nor bladder outlet surgery; of these, three have been diagnosed and treated for prostate cancer, one failed to attend the follow-up and three were discharged < 6 months after AUR. According to hospital records they required no further urological intervention. Thirteen of 18 patients remained under follow-up for a mean (range) of 3.4 (1–4.5) years, none of whom have required any further urological intervention, 12 being managed with α -blockers. When compared with those who had

further AUR or required surgery, the group who did not require further intervention had significantly smaller postvoid residual volumes after their successful TWOC (mean 44.9 vs 91.8 mL, $P=0.025$). There were no other significant differences.

CONCLUSIONS

High postvoid residuals after successful TWOC predict further AUR or the need for TURP, facilitating urgent intervention in the absence of a urinary catheter. In open follow-up, 53%

patients who had a successful TWOC (22% of the original 81) avoided surgical intervention in the longer term, justifying a TWOC after an episode of AUR.

Funding: Sanofi-Synthelabo

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Is TURP worthwhile in patients with acute-on-chronic urinary retention?

L.S. LOUIS, M.A. KHAN, R.N. LODGE, T.W. CARR and A.J. BALL
Department of Urology, Southend Hospital NHS Trust, Southend, UK

INTRODUCTION

Acute-on-chronic urinary retention poses a dilemma as to its optimum management. Concern with TURP in these patients is the risk of failing a trial without catheter (TWOC) in the presence of an uncompliant bladder. We investigated factors that may influence the outcome of TURP in this group of patients

PATIENTS AND METHODS

Forty-four consecutive patients, with no evidence of prostate cancer, presented to our department with acute-on-chronic retention and subsequently underwent TURP 6-8 weeks after bladder decompression.

RESULTS

The mean (range) age and residual volume of the patients was 73 (55-92) years and 1130 (250-2500) mL, respectively. Of the 44 men, seven were taking α -blockers at presentation and the prostate volumes (on DRE) were documented as <50 mL in 33 and >50 mL in nine. With TURP, <30 g was resected in 24 men and 20 had >30 g removed. The mean residual volume after TURP was 47 (0-490) mL and 40 (91%) men had a successful TWOC, with a mean of 2.4 (1-6) attempts. Age, α -blocker medication, prostate volume, resection weight, and comorbidities were not factors in the four patients who failed their TWOC.

However, their presenting residual volumes were significantly higher than the overall mean for the 44 men, at 1410 mL.

CONCLUSION

With a high success rate, despite requiring more TWOCs, TURP appears to be a reasonable treatment option for men presenting with acute-on-chronic retention. Those presenting with larger residual volumes (> 900 mL) might be at a higher risk of surgical failure (17% in this study), but larger multicentre studies are needed to confirm our preliminary findings.

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Autoimmune T-cell responses to seminal plasma in chronic prostatitis

G.R.D. BATSTONE, A. DOBLE and J.S.H. GASTON+
Cambridge University, Addenbrooke's Hospital, Cambridge, UK

OBJECTIVE

To test T cell responses to seminal plasma in patients with chronic prostatitis compared with healthy age-matched controls.

PATIENTS AND METHODS

Patients were recruited from our CPPS clinic. Controls were recruited by poster and excluded if they had a past history of

prostatitis-like symptoms, a CPSI pain score of > 0 or an IPSS of >7. Semen was allowed to liquefy before centrifugation, the supernatant (SP) collected and filtered through a 0.2 μ m filter. Autologous peripheral blood mononuclear cells were used (a source of T lymphocytes and antigen-presenting cells, monocytes); the man's SP is referred to as autologous SP and SP from a single healthy source was referred to as allo-SP. Stimulation indexes (SI) were used for comparison. The

two-tailed *t*-test, assuming unequal variances, was used.

RESULTS

Twenty patients and 20 controls were assessed. The patients' mean response to autologous SP (1 : 50 dilution) was an SI of 10.9 vs the control mean of 3.7 ($P=0.008$) on day 6. The patients' mean SI to allo-SP (1 : 50)

was 10.4, vs the control mean of 2.3 ($P=0.002$) on day 5, and 13.1 vs 2.8 ($P<0.05$) on day 6. Fourteen patients and three controls reached an SI of >9 to either autologous SP or allo-SP (1 : 50 dilution) on day 6 ($P=0.001$, Fisher's exact test).

CONCLUSIONS

Men with chronic prostatitis have T cell proliferative responses to SP antigen(s). The antigen(s) appear to be in the SP of a healthy individual.

Funding: BUF, Prostate Research Campaign UK, Addenbrooke's Hospital Charities Committee

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Prostatitis management: how good are we?

G.E. MOBB, S. ISLAM* and D. NEILSON†

Royal Bolton Hospital, *University Hospital of South Manchester, and †Blackburn Royal Infirmary, Lancs, UK

INTRODUCTION

Prostatitis remains a common and difficult condition to manage; we investigated the problem in our regional audit.

PATIENTS AND METHODS

Outpatient letters from 13 hospitals identified 203 patients with a diagnosis of prostatitis. The presentation, investigation and management were audited.

RESULTS

Pain was recorded in only 72% of the case-notes. The investigation of LUTS was generally

well conducted, and the use of PSA testing and subsequent TRUS/biopsy was appropriate. Only eight had TRUS as part of pain investigation. However, cultures were assessed poorly; only three patients had complete fractionated urine samples taken; 13% never had a MSU sample. Only 43 patients had a prostatic massage and 24 had a post-massage urine sample collected. Despite the lack of cultures, 70% (138) received antibiotics alone as first-line treatment, 38 of whom also had a second course; 20% (39) received an α -blocker as the initial and 34 as a second treatment. At the time of audit, 60 men had been discharged (presumed better) and of the remaining 143, 70 were better (64%

overall improved). Patients had been under hospital care for a mean (range) of 14 (0–184) months.

CONCLUSIONS

Despite antibiotic (and other) treatments, a significant proportion of men (36%) were not improved. Discussion suggested that cultures were used infrequently because of an impression of unreliable results. The long follow-up indicates that these patients represent a significant burden. Possible adoption of NIH definitions [*Urology* 1999; 54: 229–33] and improved use of culture techniques may have an impact on this.