ABSTRACT FROM CURRENT LITERATURE

Intravesical prostatic protrusion predicts clinical progression of benign prostatic enlargement in patients receiving medical treatment

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Objectives: To assess intravesical prostatic protrusion (IPP) as a novel predictor of clinical progression in patients with benign prostatic enlargement (BPE).

Methods: All patients attending the outpatient clinic at our institution who were being treated for lower urinary tract symptoms (LUTS) secondary to BPE between January 1997 and December 2003were recruited into the study. International Prostate Symptom Score (IPSS) scores, uroflowmetry parameters, post-void residual urine volume (PVR), IPP and serum prostate-specific antigen (PSA) were collected. IPP was classified into Grade 1, 2 or 3. Patients were stratified to different treatment options including watchful waiting, alpha blockers or 5-alpha reductase inhibitors. Those who developed high post-void residual urine volume (>100 mL), acute urinary retention or a deterioration of at least 4 points in IPSS score were considered to have disease progression. Using the Grade 1 IPP group as a reference, the odds ratio for clinical progression of Grade 2 and Grade 3 IPP were calculated by using multivariate analysis.

Results: A total of 259 patients with a mean age of 63 years (range 50–90 years) and mean follow-up time of 32 months were available for analysis. Fifty-two patients were found to have clinical progression. Odds ratio for progression of a Grade 2 IPP was 5.1 (95% confidence interval [CI] 1.6–16.2) and that of a Grade 3 IPP was 10.4 (95% CI 3.3–33.4).

Conclusion: A higher IPP grade is associated with a higher risk of clinical progression in BPE. IPP is a useful non-invasivepredictor for clinical progression in BPE.

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Lower urinary tract symptoms in women with irritable bowel syndrome

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Objectives: To investigate lower urinary tract symptoms (LUTS) in women with irritable bowel syndrome (IBS) and to evaluate risk factors associated with the psychiatric morbidity of these patients.

Methods: The study group included 52 female patients with a diagnosis of IBS. Fifty-five women without gastrointestinal symptoms were used as controls. LUTS were evaluated using the American Urological Association Symptom Index questionnaire. Psychiatric morbidity was evaluated using a 12-item version of the Chinese Health Questionnaire. Multiple logistic regression analysis was performed to identify the risk factors associated with psychiatric morbidity in IBS patients.

Results: There were no significant differences between the two groups in any of the demographic variables. The most common LUTS in patients with IBS were storage symptoms. These patients had significantly higher scores of frequency, nocturia, urge incontinence, lower maximal flow rate and lower voiding volume ($P < 0.05$). In addition, significantly higher storage and total American Urological Association Symptom Index questionnaire scores were also noted in IBS patients ($P < 0.05$). The prevalence of psychiatric morbidity in IBS patients was 28.8%, which was significantly higher than in the control group (20%). The urinary storage symptom score (odds ratio: 1.518; 95% confidence interval: 1.17–1.96; $P = 0.002$) was significantly correlated with psychiatric morbidity.

Conclusions: LUTS are common in IBS patients and have a negative impact on their psychiatric status. Healthcare providers should be aware of the psychological consequences of LUTS in these patients.

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Skeletal-related events in urological cancer patients with bone metastasis: A multicenter study in Japan

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Objective: To investigate the incidence of skeletal-related events (SRE) in urological cancer patients with bone metastases in Japan.

Methods: Five hundred eleven patients with urological cancer and documented bone metastases treated from January2003 to April 2008 in ten Japanese institutions were included in a retrospective analysis. Type and incidence of SRE (fracture, radiotherapy, spinal cord compression, surgery, hypercalcemia, and bone pain) were determined from patient medical records.

Results: The overall incidence of SRE, including 'pain', was 61%. The most common event was radiotherapy for bone metastases, with an incidence of 31%. The overall incidence of events seemed to be similar among Japanese and Western patients with prostate cancer and renal cell carcinoma when comparing data with previously published reports. Nevertheless, a much lower incidence of fracture (19.1%) was observed in Japanese renal cell carcinoma patients.

Conclusions: The overall incidence of SRE in Japanese urological cancer patients with bone metastasis was similar to that in Western patients, but the incidence of fracture was lower in Japanese renal cancer patients.

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Adrenal androgen levels as predictors of outcome in castration-resistant prostate cancer patients treated with combined androgen blockade using flutamide as a second-line anti-androgen

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Objectives: To analyze the clinical effects of flutamide as a second-line anti-androgen for combined androgen blockade in patients with castration-resistant prostate cancer (CRPC) initially treated with bicalutamide as a first-line anti-androgen.

Methods: Our study population consisted of 16 patients with CRPC who were treated with flutamide (375 mg daily) as second-line hormonal therapy. Dehydroepiandrosterone (DHEA), androstenedione, androstenediol, testosterone and dihydrotestosterone were measured to investigate the relationship between plasma androgens and outcome following treatment. Furthermore, adrenal androgen levels in a medium of adrenal cancer cell line were also measured.

Results: Second-line hormonal therapy using flutamide resulted in a reduction of the prostate-specific antigen (PSA) level in 14 (87.5%) of 16 patients. A PSA decline greater than 50% was observed in 8 (50%) of the 16 patients. The duration of median responsiveness was 6.25 months. PSA elevation of baseline androstenediol level was a predictive factor of PSA responsiveness. The lower DHEA group improved the duration of responsiveness to flutamide. *In vitro*, 3 mmol/L flutamide suppressed DHEA, androstenedione and androstenediol synthesis compared with bicalutamide in a medium of adrenal cancer cell line.

Conclusions: Our data show that flutamide suppresses the adrenal androgens in comparison with bicalutamide. The responsiveness and response duration of flutamide can be predicted in patients with a higher baseline

androstenediol level and a lower DHEA level. Metabolites from adrenal androgens contribute to the progression of prostate cancer.

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Morbidity of open retroperitoneal lymph node dissection for testicular cancer: contemporary perioperative data

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Objective: To review differences between primary retroperitoneal lymph node dissection (P-RPLND) and RPLND after chemotherapy (PC-RPLND) in a contemporary series of patients with testicular cancer, to validate the proposed low morbidity.

Patients and Methods: Patients who had undergone RPLND at our institution in 2001–2008 were identified and their clinical charts reviewed; in all, 190 were identified and perioperative data obtained.

Results: Of the 190 patients who had RPLND, 98 (52%) and 92 (48%) had P- and PC-RPLND, respectively. Histology of the orchidectomy specimen consisted of embryonal carcinoma in 146 (76%) patients, also including lymphovascular invasion in 83 (44%). The mean (range) operative duration was 206 (110–475) min and the mean blood loss was 294 (50–7000) mL. The median hospital stay was 4 days. Mean blood loss, operative duration and hospital stay were significantly less for the PRPLND than for PC-RPLND groups (P<0.05). There were 18 (9%) perioperative complications in all. There were no deaths in either group.

Conclusions: The short-term morbidity of open RPLND is acceptable, and open RPLND is safe and effective at select tertiary centres. When compared with historical data, the present contemporary series shows that the operative duration, blood loss and hospital stay have improved, with few complications. These contemporary data should be considered when comparing laparoscopic with open RPLND.

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Medical management of acute urolithiasis in one American academic emergency room

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Objective: To determine the implementation of medical expulsive therapy (MET) for ureterolithiasis in one tertiary-care emergency room (ER); referral patterns in the surgical and metabolic follow-up of ureterolithiasis were also assessed.

Patients and Methods: In this retrospective review we identified 556 patients with ureterolithiasis in the ER at our centre between 2005 and 2007. Of these, 131 patients met inclusion criteria, including first-time stone formers and no urological visit within the previous 5 years. ER records were reviewed and telephone interviews conducted to determine if MET was used, if the patient was referred to a urologist, if surgery was ultimately required, and if there was ultimately a metabolic evaluation.

Results: The mean (range) stone size was 4.2 (2–10) mm. Ten patients were admitted directly from the ER and 121 were discharged home. Of the 121 discharged patients, 48 (40%) were prescribed MET. In all, 46 patients received tamsulosin 0.4 mg and two received doxazosin 2 mg; no patient was prescribed steroids. The mean size of passed stones was statistically significantly lower than that of stones that did not pass (P<0.05). Patients prescribed MET had a 23% chance of needing surgery, vs 32% in those not prescribed MET (P<0.05). Seventy-one (61%) patients were followed up by a urologist, 27 (23%) by a primary-care physician, and eight (7%) had no further follow-up. Ultimately, 31 (23%) patients had a metabolic evaluation and it was abnormal in 29 (95%).

Conclusions: In this single-institution ER experience, 40% of patients with symptomatic ureterolithiasis were treated with MET on discharge from the ER. Our data also show that only patients referred to a urologist received a metabolic evaluation. This is notable given that the vast majority of those evaluated were found to have a correctable abnormality.

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Transabdominal ultrasonography of detrusor wall thickness in women with overactive bladder

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Objective: To determine the clinical usefulness of measuring detrusor wall thickness (DWT) as a noninvasive test in women with overactive bladder (OAB).

Patients, Subjects and Methods: We prospectively enrolled 122 women with dry OAB, wet OAB, and women with no OAB symptoms (control group). A 3-day voiding diary was used to differentiate between wet and dry OAB. Transabdominal ultrasonography (TAUS) measurements of DWT were taken at bladder volumes of 250–300 mL and the maximal bladder capacity by both catheter- and naturalfilling. Video-urodynamic studies (VUDS) were used to classify bladder dysfunction in 88 of the women.

Results: The mean (range) age of the women was 58 (20–94) years. There were 39 'normal' controls, 44 women had dry OAB, and 39 had wet OAB. Of the 88 women who had VUDS, 28 had a 'normal' test, 30 had increased bladder sensation (IBS), and 30 had detrusor overactivity (DO). The mean DWT at 250–300 mL among three symptomatic subgroups or urodynamic subgroups showed no significant difference by either catheter- or natural-filling methods. The women with wet OAB had significantly greater DWTs than the controls at maximal bladder volume. The maximal bladder capacity was significantly greater in 'normal' women than in those with OAB. If we corrected maximal bladder volume to 250 mL, DWT at corrected 250 mL showed no significant difference among three symptomatic subgroups.

Conclusions: DWT measured by TAUS in women with OAB and without OAB was not different and did not differ with urodynamic status. Thus, TAUS measurement of DWT is not recommended as a useful diagnostic test for DO in women with OAB.

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Predictive factors for mortality and need for nephrectomy in patients with emphysematous pyelonephritis

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Objective: To analyse the factors predicting the mortality and need for nephrectomy in patients with emphysematous pyelonephritis (EPN).

Patients and Methods: Clinical features, laboratory variables, imaging studies, management strategy and the final outcomes were analysed in 39 consecutive patients with EPN. The mean (SD) age was 57 (7.2) years and the male to female ratio was 2:11. The baseline risk factors (clinical, laboratory and radiological) were compared among three groups; group 1, survived with renal salvage (26); group 2, survived after nephrectomy (eight); and group 3, died (five).

Results: The overall survival rate was 87% (34/39) and the kidney was salvaged in 67% (26) patients at a median follow-up of 18 months. Altered mental status, thrombocytopenia, renal failure and severe hyponatremia at presentation were significantly associated with mortality rate. There was no significant difference in final outcome based on radiological classification. Extensive renal parenchymal destruction of >50% (based on computed tomography) significantly predicted the need for nephrectomy (P<0.001) and death (P=0.02). Early (<1 week) nephrectomy resulted in a higher mortality rate (three of seven patients) than initial conservative management. There were no deaths in selected patients who received antibiotics alone or had delayed nephrectomy (four patients each). Of 24 patients who had minimally invasive treatment alone, two (8%) died. Minimally invasive treatment resulted in high renal salvage (22/24, 92%).

Conclusion: Altered mental status, thrombocytopenia, renal failure and severe hyponatremia at presentation are associated with higher mortality rates, whereas extensive renal parenchymal destruction is associated with a need for nephrectomy. Early nephrectomy is associated with higher mortality rates than is initial conservative management.

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Reducing blood loss in open radical retropubic prostatectomy with prophylactic periprostatic sutures

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Objective: To determine whether the placement of small-calibre, rapidly absorbed prophylactic periprostatic sutures before the mobilization of the prostate could reduce blood loss during open retropubic radical prostatectomy (RRP).

Patients and Methods: In 2007, during open RRP, we began placing prophylactic haemostatic sutures of 4-0 and 3-0 plain catgut in the anterior portions of the distal neurovascular bundles (NVBs) and lateral to the proximal NVBs and prostate pedicles before initiating the nerve-sparing dissection and mobilizing the prostate gland. To evaluate whether this reduced intraoperative blood loss, we compared estimated blood loss (EBL), non-autologous transfusion rates, and postoperative haemoglobin (Hb) levels between 100 consecutive patients treated immediately before and 100 consecutive patients treated immediately after the adoption of the prophylactic periprostatic suture technique.

Results: Before the use of prophylactic haemostatic sutures, the mean intraoperative blood loss was 1285 mL, and one patient (1%) received an intraoperative non-autologous transfusion. After the adoption of prophylactic sutures, the mean EBL was 700 mL (P<0.001), and there were no transfusions. The mean Hb concentration the morning after RRP was 10.9 g/dL before and 11.8 g/dL after the initiation of prophylactic haemostatic sutures (P<0.001).

Conclusion: Prophylactic periprostatic haemostatic sutures significantly reduce intraoperative blood loss during open RRP.

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Effect of fluid management on fluid intake and urge incontinence in a trial for overactive bladder in women

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Objectives: To explore whether instruction in fluid management resulted in changes in fluid intake and incontinence over a 10-week study period in women with urinary urge incontinence (UUI), as fluid management might be a critical strategy in treating this condition.

Patients and Methods : In the 'Behaviour Enhances Drug Reduction of Incontinence' trial, women with predominant UUI were randomized to daily treatment with tolterodine or tolterodine combined with behavioural therapies, among which were individualized instructions on fluid management. Patients in both groups received general fluid management instructions, while in the drug+behaviour arm, those with excessive urine output (>2.1 L/day) had additional individualized instruction during each of four study visits to learn behavioural strategies. Variables measured at baseline and at 10 weeks were type of incontinence, using the Medical, Epidemiological, and Social Aspects of Aging questionnaire, severity of incontinence by number of incontinence episodes based on a 7-day diary, number of voids/24 h (F24), urgency rating, 24-h fluid intake (I

24) and 24-h volume voided (V24), volume average (Vavg), pad use, bothersomeness of UUI (Urogenital Distress Inventory and Overactive Bladder questionnaire), and quality of life (Incontinence Impact Questionnaire-7 and Short-Form-12).

Results: Leakage episodes/24 h, V24, I24 and average urgency ratings all significantly decreased from baseline to 10 weeks (P<0.001 for each). Vavg increased (P<0.001), as did voids/L intake (P=0.01). None of the changes in diary variable outcomes differed by treatment group after accounting for these changes between baseline and 10 weeks. In a

multivariable model, treatment group was not associated with change in V24 from baseline to 10 weeks (*P*=0.81), but the difference in the number of accidents/diary day, F24, I24, and average voids/day each were positively related with the change in V24 (*P*<0.001 for each). Patients had a response to fluid management instructions; the decrease in the percentage of women with a V of>2.1 L between baseline and follow-up was statistically significant (*P*=0.01McNemar's test).

Conclusion: General fluid instructions can contribute to the reduction in UUI symptoms for women taking anticholinergic medications, but additional individualized instructions along with other behavioural therapies did little to further improve the outcome.