

highly variable. While a rising PSA level universally antedates metastatic progression and prostate cancer-specific mortality (PCSM), it is not a surrogate for these endpoints. Thus, the management of patients with BCR is controversial.

Methods: A literature review was conducted to determine the incidence and natural history of BCR, prognostic factors for clinical progression (CP), and the available evidence supporting local or systemic salvage therapy for these patients.

Results: BCR is best defined as two successive PSA levels $>$ or $=0.4$ ng/ml, as this correlates most accurately with CP. PSA doubling time (PSA-DT) and prostatectomy Gleason score are the variables that best predict the development of distant metastasis and PCSM. Prognostic models based on these and other variables are useful for assessing the need for salvage therapy and the anticipated outcome following local salvage therapy. A treatment algorithm for managing patients with post-prostatectomy BCR was devised.

Conclusions: Management of patients with BCR after prostatectomy continues to be a complex and challenging issue. Improved methods for risk stratification allow for identification of patients who require treatment. Furthermore, these methods aid in determination of the pattern of disease recurrence, thereby guiding treatment modality. Randomized trials are essential to determine the value of local or systemic salvage therapy strategies in this patient population.

Editorial Comment

The percentage of biochemical recurrence after radical prostatectomy (RP) in several large series varies between 15% and 33% with a median time to failure between 2 and 3.5 years. This article gives a straightforward summary of several published trials on this patient group. Several definitions of failure are discussed and an overview on the results of different series is given. Interestingly, only two of seven trials showed a benefit of early hormone therapy in recurrent prostate cancer. Based on these data, a meaningful treatment algorithm is provided.

Article focuses on the complications of a large cystectomy series of a so-called high-volume center with around 40 cystectomies annually. The complication rate in this series, which is very identical to other large volume series, is roughly around 30%, mortality at 1%. Interestingly, median operative time for ileal conduits was 5.7 hours and for neobladders 6.5 hours.

Patients should be counseled about these realistic data before surgery.

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NEUROUROLOGY & FEMALE UROLOGY

Correlation of Bladder Base Elevation with Pelvic Floor Hypertonicity in Women with Lower Urinary Tract Symptoms

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Aims: To determine whether the bladder base elevation as revealed by cystogram under fluoroscopy is associated with pelvic floor hypertonicity or bladder outlet obstruction (BOO) in women.

Methods: Sixty-two women who were referred to our videourodynamic laboratory for assessment of lower urinary tract symptoms (LUTS) were included in this retrospective analysis. Thirty-one of these women with bladder base elevation-revealed by cystogram under fluoroscopy during videourodynamic study-served as the experimental group, and another group of 31 women without bladder base elevation served as control. None of the patients had neuropathy, previous pelvic surgery or chronic urinary retention. The clinical symptoms, urodynamic diagnosis, and parameters were compared between the two groups.

Results: The mean voiding pressure (Pdet. Qmax) and postvoid residual (PVR) were significantly greater, and maximum flow rate (Qmax) and voided volume were significantly lower in the bladder base elevation group. When a Pdet. Qmax of ≥ 35 cm H₂O combined with a Qmax of ≤ 15 ml/sec in pressure flow study was used to diagnose BOO, significantly more patients in the bladder base elevation group had BOO than controls (51.6% vs. 9.7%, $P=0.0003$). Pelvic floor muscle electromyogram (EMG) was dyscoordinated during the voiding phase in 18 (58.1%) and 9 (29%) of the patients with and without bladder base elevation, respectively ($P=0.0212$).

Conclusion: Women with LUTS and bladder base elevation revealed in the filling phase of videourodynamic study had significantly higher voiding pressure and incidence of dyscoordinated pelvic floor EMG activities during voiding, suggesting a higher incidence of BOO and pelvic floor hypertonicity. Copyright (c) 2007 Wiley-Liss, Inc.

Editorial Comment

The authors in this study highlight another potential advantage of radiographic imaging of the bladder during the evaluation of urinary incontinence. They noted that female patients with lower urinary tract symptoms and fluoroscopic bladder base elevation would exhibit higher voiding pressures and abnormal pelvic floor EMG activity. Though this study population did not have any additional radiographic imaging of the pelvis to preclude a mass effect causing the elevation of the bladder base, it was noted that the bladder base did descend during the voiding phase in all patients except for those who had evidence of bladder outlet obstruction. It would be of interest to see if patients who have iatrogenic induced bladder base elevation on radiographic imaging from surgical repair of the anterior compartment will have the same degree of voiding dysfunction as noted by these patients. The value of fluoroscopy in the evaluation of female lower urinary tract symptoms has already been highlighted in the literature (1).

Reference

1. Akikwala TV, Fleischman N, Nitti VW. Comparison of diagnostic criteria for female bladder outlet obstruction. *Journal of Urology*. 2006; 176: 2093-7.

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Pelvis Architecture and Urinary Incontinence in Women.

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Objectives: To examine anatomic features in the pelvic bones and muscles in women with urinary incontinence (UI).

Material and Methods: Between October 2005 and January 2006, 212 consecutive women underwent pelvic computerized tomography in our center. Preceding the examination, all women completed a clinical and demographic questionnaire including detailed questions about UI. Several anatomic parameters using multiplanar reformation and three-dimensional techniques (volume rendering) were examined. We specifically evaluated different bony parameters, pelvic floor muscle angles, densities, and cross-sectional areas. Ninety-three women (46.5%) had UI; the remaining women served as the control group. A logistic regression model was used to evaluate risk factors for UI.

Results: The mean age was 55.5 yr (range: 19-90). Women who suffered from UI were older (60.97 vs. 50.77 yr, $p < 0.0001$), had higher body mass index (27.65 vs. 25.49, $p < 0.01$), had more previous hysterectomies (21.5% vs. 6.5%, $p < 0.005$), underwent more pelvic irradiation (9.7% vs. 1.8%, $p < 0.05$), and had more diabetes mellitus (31.2% vs. 13.1%, $p < 0.005$). Patient's age and previous hysterectomy were found to be the major clinical risk factors for UI (OR: 1.029, $p = 0.002$; OR: 2.94, $p = 0.024$, respectively). Logistic regression analysis on all clinical and morphologic variables yielded the following risk factors: pelvic-inlet diameter (OR: 1.216, $p < 0.0001$), pelvic-inlet anterior-posterior diameter (OR: 1.109, $p = 0.003$), pelvic-outlet diameter (OR: 1.077, $p = 0.011$) and transverse perineal muscle cross-section diameter (OR: 0.773, $p < 0.0001$).

Conclusions: Pelvic inlet and outlet dimensions are major risk factors for developing UI in women. These findings may lead to a better comprehension of the pathophysiology of UI in women.

Editorial Comment

The authors present a very interesting review noting that pelvic inlet and outlet diameters were significantly larger in the incontinent women of their study group than those who were continent. That these increased diameters were congenital or from maturational changes remained unanswered. Perhaps the etiology is unimportant; and in addition, continence rates also depend on the pelvic muscle mass present as noted in this paper. This presentation raises the thought that perhaps the hormonally induced relaxation of the pelvic ligaments and the subsequent increased pelvic diameter associated with childbirth may be the significant contributor to the transient urinary incontinence of pregnancy.

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