

Straddle injuries are not to be confused with the stenoses that occur from pelvic fracture. With pelvic fracture, the injury is a distraction injury where there is disruption of the urethra and corpus spongiosum at the level of the membranous - bulbar junction or the membranous and the prostate. Here there is no real spongiosum fibrosis and “urethral stricture” – but scar tissue that fills the gap. Primary realignment is the preferred management of such injuries because it a distraction injury and not a stricture. Historically, the outcomes of primary realignment are a reduction in urethral stricture by 50%, while the rates of erectile dysfunction and incontinence are the same as a suprapubic tube. Furthermore, the eventual stricture that does occur is often shorter and more amenable to urethrotomy.

From the above abstracts, I think the conclusion that straddle injuries should be managed by suprapubic tube alone, as the best management that should be followed. Intuitively, we would assume that the Denis Browne principle would apply here and stenting would promote epithelialization. However, until a randomized prospective trial takes pace – and I doubt that any such study will be done soon – we should resist the temptation to primarily realign the urethra. As to urethral penetrating urethral injuries from low velocity gunshot wounds (no delayed ischemia or blast effect) the site of injury is typically short. A short area of injury can be bridged by adequate mobilization and natural elasticity of the urethra, particularly in the bulbar urethra. In the penile urethra, over mobilization and an anastomosis on tension may result in chordee or stricture failure. Primary realignment of a short penile urethral injury is not the first treatment of choice – but rather surgical exploration and primary repair. When the defect is too long (more than 1 cm or so), urethral marsupialization and a two stage repair (in the method of Johansson) is probable best.

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Does perineural invasion on prostate biopsy predict adverse prostatectomy outcomes?

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Objective: To determine the relationship between perineural invasion (PNI) on prostate biopsy and radical prostatectomy (RP) outcomes in a contemporary RP series, as there is conflicting evidence on the prognostic significance of PNI in prostate needle biopsy specimens.

Patients and Methods: From 2002 to 2007, 1256 men had RP by one surgeon. Multivariable logistic regression and Cox proportional hazards models were used to examine the relationship of PNI with pathological tumour features and biochemical progression, respectively, after adjusting for prostate-specific antigen level, clinical stage and biopsy Gleason score. Additional Cox models were used to examine the relationship between nerve-sparing and biochemical progression among men with PNI.

Results: PNI was found in 188 (15%) patients, and was significantly associated with aggressive pathology and biochemical progression. On multivariate analysis, PNI was significantly associated with extraprostatic extension and seminal vesicle invasion ($P < 0.001$). Biochemical progression occurred in 10.5% of patients with PNI, vs 3.5% of those without PNI (unadjusted hazard ratio 3.12, 95% confidence interval 1.77-5.52, $P < 0.001$). However, PNI was not a significant independent predictor of biochemical progression on multivariate analysis. Finally, nerve-sparing did not adversely affect biochemical progression even among men with PNI.

Conclusion: PNI is an independent risk factor for aggressive pathology features and a non-independent risk factor for biochemical progression after RP. However, bilateral nerve-sparing surgery did not compromise the oncological outcomes for patients with PNI on biopsy.

Editorial Comment

Perineural invasion (PNI) on needle prostatic biopsies as a marker of extraprostatic extension has been controversial. In almost all studies, perineural invasion has been related to extraprostatic extension in univariate analysis but in only a few studies in multivariate analysis. The practical importance relates to the decision of whether to sacrifice part or all of the neurovascular bundle on the side of the biopsy with PNI in planning nerve-sparing radical prostatectomy.

Egan and Bostwick (1) found on univariate analysis that PNI on needle biopsy was significantly associated to extraprostatic extension and seminal vesicle invasion. On multivariate analysis, however, only preoperative PSA, proportion of the biopsy involved by cancer, and Gleason score were significant. Ukimura et al. (2) found that PNI on biopsy was a good predictor among others studied for extraprostatic extension on univariate analysis but not on multivariate analysis. In the study by Vargas et al. (3) PNI was not an independent predictor of extraprostatic extension when PSA was included.

D'Amico et al. (4) evaluated the clinical use of PNI at biopsy for predicting time to PSA failure following radical prostatectomy of 750 men with clinically localized or PSA detected prostate cancer. The presence of PNI on biopsy was not a significant predictor of PSA outcome following RP for patients in the intermediate or high risk group. O'Malley et al. (5) compared 78 biopsies with PNI with 78 matched controls without PNI and were unable to show that PNI on needle biopsy influences long-term tumor-free survival.

In the study surveyed, Loeb's et al. found that PNI is an independent risk factor for aggressive pathology features like extraprostatic extension and seminal vesicle invasion, and a non-independent risk factor for biochemical progression after radical prostatectomy. According to the authors, the findings support the routine reporting of PNI in biopsy pathology reports. They also concluded that nerve-sparing surgery did not adversely affect biochemical progression even among men with PNI.

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Transurethral resection specimens of the bladder (TURB): Outcome of invasive urothelial cancer involving muscle bundles indeterminate between muscularis mucosae and muscularis propria

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Background: It may be difficult to diagnose muscularis propria on TURB as thin muscle fibers on TURB may represent either muscularis propria destroyed or splayed by urothelial carcinoma or muscularis mucosae, which may be hyperplastic.

Design: 95 invasive bladder cancers seen at our institution (1986-2008) with follow-up (mean 25.4 months) where the initial TUR pathologic stage was ambiguous (T1 vs. T2) were analyzed (73 men; 22 women; mean age 69.4 years).

Results: Subsequent restaging TURB or definitive therapeutic procedures performed ≤ 3 months after the original TURB done in 58 cases revealed 22 (37.9%) patients with non-muscle invasive disease and 32 (55.2%) patients with \geq pT2 disease. Staging in 4 cases remained ambiguous. 37 cases eventually developed \geq pT2 disease in 2/22 (9.1%) cases with non-muscle invasive disease on initial restaging TURB, 2/4 (50.0%) of cases with uncertain stage disease, and 14/37 (37.8%) cases with no restaging TURB. Patients with a final stage of non-muscle invasive disease had a lower risk of progression (T4 or metastatic disease) vs. those with a final stage of \geq pT2 ($p=0.003$), uncertain stage ($p=0.012$), or no stage confirmation ($p=0.043$).

Conclusions: This is the first study to evaluate follow-up when initial TURB is equivocal for muscularis propria invasion. Similar to an atypical prostate needle biopsy, urologists should be encouraged to perform restaging TURBs in cases of equivocal muscularis propria invasion. Although this may seem intuitive, 37/95 cases did not have repeat staging/therapeutic procedures done within 3 months of initial TURB; 37.8% of these patients eventually developed \geq T2 disease.

Editorial Comment

It is of utmost importance the staging of urothelial carcinomas of the urinary bladder. In stage pT2 (invasion of the muscularis propria) is indicated radical cystectomy. Sometimes the distinction between muscularis mucosae and muscularis propria is a dilemma for the pathologist. Invasion of the muscularis mucosa is stage pT1.

Morphologically these two muscular layers are distinct. In muscularis mucosa, the fibers are thin and spaced; in muscularis propria, the fibers form compact aggregates. It is interesting to note that description of the muscularis mucosae will not be found in Histology texts. The existence and morphology of this layer was