Editorial Comment

Acute, blunt posterior urethral injuries, I believe, have ample data in the literature to support early endoscopic realignment over a catheter instead of suprapubic tube placement. I was surprised to see that in this series, acute realignment of significant acute blunt anterior urethral injuries was certain no better and potentially worse than suprapubic urinary diversion.

Seventy-eight patients are reported here, of which roughly half present acutely and half present long after the injury (all of these late cases had urethral stricture). Nine percent of those treated with urinary diversion required urethroplasty and 17% of those treated with primary catheter realignment needed surgery (p = not significant). More importantly, the length of the stricture seemed to be much longer on those managed with a urethral catheter ($p < 0.5$). The reason for this is unclear, and explanations involving "damage to the corpora spongiosum" are usually invoked in the literature. No matter what the reason, the data appears reasonably robust to suggest that acute catheter realignment of these injuries is not a good idea.

Of note, this article, which deals with blunt injury, should not be confused with previously printed works concerning penetrating anterior urethral trauma. This, too, is controversial with some advocating immediate repair and others advocating suprapubic diversion alone.

Although it will be psychologically difficult for me to avoid early urethral realignment of anterior strictures over a catheter (as I so strongly believe that it helps greatly in posterior urethral stricture) this and other series seem to indicate that suprapubic diversion may be the better option.

Dr. Richard A. Santucci
Assistant Professor of Urology
Wayne State University
Detroit, Michigan, USA

PATHOLOGY

Fat invasion in ten-core prostate needle biopsies: incidence, biopsy and clinical findings

Yilmaz A, Trpkov K
Rockyview General Hospital, Calgary Laboratory Services and University of Calgary, Calgary, AB, Canada
Mod Pathol. 2004; 17 (suppl. 1): 186A

Background: Presence of prostate cancer in the periprostatic adipose tissue signifies an advanced disease if seen on radical prostatectomy (stage pT3a). The significance of fat invasion on needle-core biopsies has not been well studied. The aim of the study is to investigate the incidence of the fat involvement and the associated clinical and biopsy findings on ten-core needle biopsy.

Design: From 07/00 to 12/01, 1,017 patients demonstrated prostate cancer on ten-core needle biopsy in our centralized Urological Pathology for the Calgary Health Region. The clinical and pathology data for all patients have been collected in our prostate cancer database. Fat involvement on one or more biopsy cores has been reported in 23 patients. Only one patient had undergone a radical prostatectomy in our institution until 09/03. All biopsies reported as positive for fat involvement and the prostatectomy specimen were reviewed.

Results: The incidence of fat involvement on needle biopsy was 2.2%. Most common site of fat involvement was the prostatic base (83%) and in 9/23 (39%) patients' fat involvement was present in more than one site. The patients mean age was 70.1 years (range 57-83). Digital rectal examination and ultrasound findings were abnormal in 14/24 (58%) and 12/24 (50%) patients, respectively. Mean serum PSA was 52.3 ng/ml (median 15.55) and mean PSA density was 2 .1 (median 0.45). Prostatic carcinoma was bilateral in 19/23

(83%) of the patients. Perineural involvement was identified in all biopsies with fat invasion; one biopsy showed also muscle involvement. The number of cores positive for prostate cancer ranged from 4 to 10 (mean 8). Mean biopsy Gleason score was 8 (range 7-10) and in 12/24 (50%) of the patients Gleason score was 8. Focal extraprostatic extension was confirmed in the patient who underwent radical prostatectomy.

Conclusions: Invasion of the fat by prostate cancer is uncommonly seen in ten-core prostatic biopsies. It is associated with adverse clinical and biopsy findings, including extensive and multiple core involvement, high Gleason biopsy score, and perineural invasion. It is most commonly seen in the biopsy cores from the prostatic base. Fat involvement should be always reported when identified on prostatic needle biopsies. The fact that during the follow-up period radical prostatectomy was performed only in one patient with fat involvement on biopsy, suggests that these patients, in addition to the adverse biopsy findings, presented with clinically advanced disease.

Editorial Comment

Invasion of fat is almost always a manifestation of extraprostatic spread by cancer. However, a published observation has indicated that rarely, significant expanses of fat may exist within the prostate, where its invasion by carcinoma would be misleading and might be considered evidence of extraprostatic spread (1).

To address this finding we dissected 150 prostates from consecutive autopsies of men over 40 (mean and median age, 61 years) who died of diseases other than carcinoma of the prostate (2). Fat was found amid preceding the most peripheral acini of the gland in only 1 of 150 (0.66%) prostates examined. This fat, comprising a group of 6 adipose cells was seen in only 1 of 45 sections of this prostate, corresponding to 1 of the total of 5,712 sections (0.01%) examined. This section with fat was located in the anterolateral part of the gland.

The study by Yilmaz and Trpkov supports our findings. There are 3 criteria for extraprostatic extension, depending on the site and composition of the extraprostatic tissue: 1) - cancer in adipose tissue, 2) - cancer in perineural spaces of the neurovascular bundles, and 3) - cancer in anterior muscle (3). Our study demonstrated that intraprostatic fat is extremely rare. Invasion of fat in a needle biopsy specimen of the posterolateral region of the prostate appears to always be a manifestation of extraprostatic spread by cancer.

REFERENCES

1. Cohen RJ, Stables S: Intraprostatic fat. Hum Pathol. 1998; 29: 424-5.
2. Billis A: Intraprostatic fat: does it exist? Hum Pathol. 2004; 35: 525.
3. Bostwick DG, Montironi R: Evaluating radical prostatectomy specimens: therapeutic and prognostic importance. Virchows Arch. 1997; 430: 1-16.

Dr. Athanase Billis
Full-Professor of Pathology
State University of Campinas, Unicamp
Campinas, São Paulo, Brazil

Sarcomatoid renal cell carcinoma: an examination of underlying histologic subtype and an analysis of associations with patient outcome

Cheville JC, Lohse CM, Zincke H, Weaver AL, Leibovich BC, Frank I, Blute ML
Department of Laboratory Medicine and Pathology, Mayo Clinic, Rochester, MN, USA
Am J Surg Pathol. 2004; 28: 435-41

A sarcomatoid component can occur in all histologic subtypes of renal cell carcinoma (RCC) and indicates an aggressive tumor. We studied 2381 patients treated with radical nephrectomy for RCC between 1970 and 2000. A urologic pathologist reviewed the microscopic slides from all tumor specimens for the presence of a sarcomatoid component, defined as a RCC with any malignant spindle cell component. All tumors with a sarcomatoid component were classified as nuclear grade 4. A total of 120 (5.0%) patients had RCC with a sarcomatoid component, including 94 who died of RCC at a mean of 1.4 years following nephrectomy (median 8 months; range 44 days to 10 years). Cancer-specific survival rates at 2 and 5 years following nephrectomy were 33.3% and 14.5%, respectively. The presence of distant metastases at the radical nephrectomy and histologic tumor necrosis were significantly associated with death from RCC among patients with sarcomatoid RCC. Patients with clear cell (conventional) RCC and chromophobe RCC were more likely to have tumors with a sarcomatoid component (5.2% and 8.7%, respectively) compared with patients with papillary RCC (1.9%). The presence of a sarcomatoid component was significantly associated with death from RCC for all three subtypes ($P < 0.001$). Even among patients with grade 4 clear cell RCC, the presence of a sarcomatoid component was significantly associated with outcome, both univariately (risk ratio 1.59; $P = 0.010$) and after adjusting for TNM stage, tumor size, and histologic tumor necrosis (risk ratio 1.46; $P = 0.037$).

Editorial Comment

The Heidelberg classification of renal cell tumors is based on genetic alterations and classifies malignant parenchymal neoplasms as: 1) - common or conventional renal cell carcinoma which includes tumors with clear and/or eosinophilic cytoplasm; 2) - papillary renal cell carcinoma; 3) - chromophobe renal cell carcinoma; 4) - collecting duct carcinoma which includes the variant medullary carcinoma associated to sickle cell trait; and, 5) - renal cell carcinoma, unclassified (1). From group 5 was separated a new entity named “low-grade mucinous tubular and spindle cell carcinoma” possibly originated from the loop of Henle (2).

It is recognized that sarcomatoid change has been found to arise in all of these types of renal cell carcinoma in this classification. Sarcomatoid features thus do not constitute a type per se, but rather are an indication of progression in renal cell carcinoma.

In the study by Cheville JC et al., patients with chromophobe renal cell carcinoma had a higher frequency of sarcomatoid transformation (8.7%) comparatively to conventional (clear cell) carcinoma (5.2%) and papilllary carcinoma (1.9%). This high frequency was also found by Akhtar M et al. (3) in Saudi Arabia where chromophobe renal cell carcinoma has the highest prevalence.

Sarcomatoid change should always be reported by the pathologist. The presence of a sarcomatoid change has an important impact on prognosis. In the study by Cheville et al. the presence of a sarcomatoid component was significantly associated with death both univariately and after adjusting for TNM stage, tumor size, and histologic tumor necrosis.

REFERENCES

1. Kovacs G, Akhtar M, Beckwith BJ, Bugert P, Cooper CS, Delahunt B, et al.: The Heidelberg classification of renal cell tumours. J Pathol. 1997; 183: 131-3.
2. Srigley JR et al.: Mod Pathol. 1999; 12: 107A.
3. Akhtar M, Tulbah A, Kardar AH, Ali MA: Sarcomatoid renal cell carcinoma: the chromophobe connection. Am J Surg Pathol. 1997; 21: 1188-95.

Dr. Athanase Billis
Full-Professor of Pathology
State University of Campinas, Unicamp
Campinas, São Paulo, Brazil