

PATHOLOGY

Should the diagnosis of benign prostatic hyperplasia be made on prostate needle biopsy?

Viglione MP, Potter S, Partin AW, Lesniak MS, Epstein JI
Department of Pathology, The Johns Hopkins Medical Institutions,
Baltimore, Maryland, USA.
Hum Pathol. 2002; 33:796-800

Purpose: Pathologists frequently sign out benign prostate needle biopsies as “benign prostatic hyperplasia” (BPH). There are no data indicating that a diagnosis of BPH on biopsy correlates with either gland weight or with the International Prostate Symptom Score (IPSS) used to measure urinary obstructive symptoms.

Material and Methods: The authors examined biopsies for average percentage of glands and average percentage of glands with papillary infolding per case, maximum percentage of glands and maximum percentage of glands with papillary infolding per core per case, and presence of any stromal nodules per case. BPH was measured in 2 ways: (1) IPSS grouped into 3 categories (mild, moderate, severe) and (2) prostate weight at radical prostatectomy in men with limited cancer. IPSS was classified as follows: mild (n = 12), moderate (n = 13), and severe (n = 10).

Results: There was no correlation with IPSS and any of the histologic features measured. For the 41 radical prostatectomy specimens, the average weight was 65.3 g (median, 56.0 g, range, 22 to 117 g). There was no correlation between gland weight and the average or maximum percentage of glands, or average or maximum percentage of glands with papillary infolding. Stromal nodules on biopsy correlated with gland weight. In the 30 cases without stromal nodules on biopsy, the mean gland weight was 51.4 g. In the 11 cases with stromal nodules on biopsy, the mean gland weight was 77.4 g (P = 0.0125). However, stromal nodules were not specific for a large prostate (i.e., a 15 g prostate had stromal nodules on biopsy).

Conclusions: With the exception of stromal nodules found on biopsy, histologic findings on biopsy are not specific for either clinical or pathologic BPH. Thus benign prostate biopsies should be signed out merely as “benign prostate tissue”.

Editorial Comment

The diagnosis of “benign prostatic hyperplasia” (BPH) is not uncommon on pathology reports. Most of the times, however, there is no correlation with prostatism. Why does it happen? There are 2 main reasons. The first is related to erroneous diagnosis of benign prostatic hyperplasia. Purely stromal nodules are easily diagnosed by pathologists. Mixed (glandular and stromal) nodules are difficult to diagnose on needle biopsies. Papillary infolding is not a criterion for the diagnosis. The criterion is subtle and depends on the microscopy of the stroma intervening the glands. Most of the times mixed nodules are erroneously diagnosed. The second reason

relates to the prostate zone biopsied. Unless specified, the needle biopsy is from the peripheral zone of the prostate, which rarely shows BPH. In 378 radical prostatectomies, Kerley et al. (J Urol Pathol. 1997; 6:87-94) found 57 prostates (15.1%) with nodules in the peripheral zone. Another point to consider is the fact that these nodules in the peripheral zone represent a microscopic finding and are not related to prostatism. In conclusion, pathologists should not have aversion to report “benign prostate tissue”.

Dr. Athanase Billis

*Chair, Department of Pathology
State University of Campinas, Unicamp
Campinas, São Paulo, Brazil*

Substratification of stage T1c prostate cancer based on the probability of biochemical recurrence

Gretzer MB, Epstein JI, Pound CR, Walsh PC, Partin AW

James Buchanan Brady Urological Institute, Johns Hopkins Medical

Institutions, Baltimore, Maryland, USA

Urology 2002; 60:1034-39

Objectives: To evaluate the influence of preoperative prostate-specific antigen (PSA), biopsy Gleason sum, and prostate biopsy quantitative histologic findings on the probability of biochemical failure in an attempt to identify criteria to substratify Stage T1c prostate cancer more accurately.

Methods: We reviewed the records of 1149 patients who underwent prostatectomy for T1c disease between 1988 and 2000. Biochemical recurrence (PSA 0.2 ng/mL or greater) defined the endpoint in this study. Recursive partitioning analysis was used to establish cutpoints for preoperative PSA level, biopsy Gleason sum, number of positive biopsy cores, and maximal percentage of any single biopsy core involved with cancer. These cutoff values were then evaluated using Kaplan-Meier estimations to determine the probability of remaining biochemically recurrence free.

Results: Using a PSA cutpoint of 10 ng/mL or a biopsy Gleason sum of 7, two groups of patients were identified (T1cI and T1cII). The rate of freedom from PSA recurrence at 3, 5, and 10 years after surgery for T1cI was 98%, 96%, and 96%, respectively, and for T1cII was 86%, 83%, and 73%, respectively ($P < 0.001$). For T1cII patients, the greatest percentage of cancer in a single biopsy core was found to be a predictor of biochemical failure on multivariate analysis and, using a cutoff value of 50%, further stratified the PSA recurrence-free rates for the men in group T1cII (90% and 85% versus 75% and 56% at 5 and 10 years after surgery, respectively, $P = 0.03$).

Conclusions: The results of this study demonstrate that within Stage T1c there are two populations of patients with significantly different recurrence probabilities: T1cI (Gleason sum less than 7 and PSA 10 ng/mL or less) and T1cII (Gleason sum 7 or greater or PSA greater than 10 ng/mL). Furthermore, using a cutpoint of 50% of cancer in a single core of biopsy tissue, additional risk stratification is afforded to men with higher risk “T1cII” cancer.

Editorial Comment

Clinical stage T1c is one of the most important issues regarding prostate cancer. Of 557 consecutive men who underwent radical prostatectomy between October 1998 and January 2000 at the Johns Hopkins Medical Institutions, 386 (69%) presented with clinical stage T1c (J Urol. 2002; 168:100-104). In our Institution (Unicamp), 52% of the patients who underwent radical prostatectomy in 2002 presented in this stage. The effort to stratify this clinical stage is worthy. Epstein JI et al. (J Urol. 1998; 160:2407-11) and Noguchi M et al.

(J Urol. 2001; 166:104-9) consider T1c cancer as “significant” or “insignificant”, according to pathologic findings on needle biopsy. This stratification relates to cancer volume found in the specimen of the radical prostatectomy. Gretzer MB et al., propose a stratification based on biochemical recurrence (PSA 0.2 ng/mL or greater). According to their results, using a PSA cutpoint of 10 ng/mL or a biopsy Gleason sum of 7, two groups of patients were identified (T1cI and T1cII). This study adds to the “significant” or “insignificant” parameters probabilities of PSA recurrence. It will help the urologist to discuss with his patient this unique condition in oncology (stage T1c prostate cancer).

Dr. Athanase Billis
Chair, Department of Pathology
State University of Campinas, Unicamp
Campinas, São Paulo, Brazil