

PATHOLOGY

Different types of atrophy in the prostate with and without adenocarcinoma

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Objectives: The purpose of this study was to evaluate, according to a classification proposed by a working group, the extent and type of atrophy lesions in radical prostatectomy specimens obtained from patients with prostatic

carcinoma and benign prostatic hyperplasia (BPH), and to compare the prevalence and types of atrophy between two investigated groups.

Methods: Histologic analysis of 1096 slides from 50 patients with carcinoma and 277 slides from 31 patients with BPH was performed to evaluate, according to the new prostatic atrophy classification, the number of foci and type of atrophic lesions.

Results: Age, Gleason grade, and TNM showed no significant correlation with the number of proliferative atrophy (PA) and proliferative inflammatory atrophy (PIA) foci ($p > 0.05$). PIA was significantly more frequent in prostates with carcinoma (1.63 vs 1.27 atrophic lesions per slide) ($p < 0.001$), whereas PA displayed an increased frequency in BPH (2.28 vs 0.76 atrophic lesions per slide) ($p < 0.001$).

Conclusions: We confirmed that PA and PIA are common findings in prostates with and without carcinoma, but the question of whether inflammation produces tissue damage and PA or whether some other insult induces the tissue damage and atrophy directly, with inflammation occurring secondarily, is still unresolved.

Editorial Comment

In this study, the authors found that patients with benign prostatic hyperplasia (BPH) had a significantly higher number of prostatic atrophy foci compared with patients with carcinoma. On the other hand, in patients with carcinoma, inflammatory prostatic atrophy was more prevalent compared with prostatic atrophy without inflammation, and slides from these patients contained a significantly higher number of inflammatory prostatic atrophy foci compared with slides from BPH patients. The authors recognize that slides with carcinoma contained peripheral and transitional zones, whereas slides with BPH were mainly composed of transitional zones. Thus, the obtained different prevalence of atrophy in malignant and benign cases could partially reflect the difference in distribution between various anatomic compartments of the prostate.

In a study on autopsies, we found inflammatory atrophy in 66% and atrophy without inflammation in 22% of analyzed cases (1). We did not find any association between the presence of inflammatory atrophy and the likelihood of cancer, and no topographic association between atrophy and prostate cancer foci as well as high-grade prostatic intraepithelial neoplasia (PIN).

The link between atrophy and /or inflammatory atrophy and prostate cancer is theoretically attractive but controversial (1-8). It has been difficult to verify a clinical connection between the lesions. A recent report associating extension of prostatic atrophy to serum PSA elevation added a novel interest to this intriguing lesion (9,10).

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Expectant management of prostate cancer with curative intent: an update of the Johns Hopkins experience

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Purpose: We updated our experience with a strategy of expectant treatment for men with stage T1c prostate cancer and evaluated predictors of disease intervention.

Materials and Methods: A total of 407 men with a median age of 65.7 years (range 45.8 to 81.5) with stage T1c (99.8%) or T2a (0.2%) prostate cancer suspected of harboring small volume prostate cancer based on needle biopsy findings and prostate specific antigen density have been followed in a prospective, longitudinal surveillance program with a median followup of 2.8 years (range 0.4 to 12.5). A recommendation for treatment was made if disease progression was suggested by unfavorable followup needle biopsy findings (Gleason pattern 4 or 5, greater than 2 biopsy cores with cancer or greater than 50% involvement of any core with cancer). Cox proportional hazards regression was used to evaluate the affect of multiple covariates on the outcome of curative intervention.

Results: Of 407 men 239 (59%) men remained on active surveillance at a median followup of 3.4 years (range 0.43 to 12.5), 103 (25%) underwent curative intervention at a median of 2.2 years after diagnosis (range 0.96 to 7.39) and 65 (16%) were either lost to followup (12), withdrew from the program (45), or died of causes other than prostate cancer (8). Older age at diagnosis ($p = 0.011$) and an earlier date of diagnosis ($p = 0.001$) were significantly associated with curative intervention.

Conclusions: Recognizing that over treatment of prostate cancer is prevalent, especially among elderly patients, a program of careful selection and monitoring of older men who are likely to harbor small volume, low grade disease may be a rational alternative to the active treatment of all.

Editorial Comment

The preliminary results of this study were published in 2002 (1). In the conclusion of this update, the authors, considering that over treatment of prostate cancer is prevalent, especially among elderly patients, a program of careful selection and monitoring of older men who are likely to harbor small volume, low grade disease may be a rational alternative to the active treatment of all. Of 407 men, 239 (59%) men remained on active surveillance at a median follow-up of 3.4 years (range 0.43 to 12.5) and less than half 103 (25%) underwent curative intervention at a median of 2.2 years after diagnosis. The recommendation for treatment was made if

disease progression was suggested by unfavorable follow-up needle biopsy findings based on extension of the tumor and Gleason grading.

The pathology report has a decisive importance for the selection of patients for expectant management. In patients with stage T1c prostate cancer and prostate-specific antigen (PSA) < 0.15 ng/mL, the biopsy should not show Gleason pattern 4 or 5, greater than 2 biopsy cores with cancer or greater than 50% involvement of any core. Patients that fulfill these criteria have a 79.9% probability for harboring insignificant tumors (less than 0.5 cm³) (2). Insignificant, however, does not mean latent (dorment or indolent) tumor. It means a small volume tumor with favorable pathological findings: low-grade Gleason score, confined to the prostate and no positive surgical margins. Unfortunately, so far there is no marker for the biological behavior of prostate cancer.

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