

## **PATHOLOGY**

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### **A clinicopathologic comparison of clinical stages T1c versus T2 prostate adenocarcinoma: lack of differences in PSA recurrence**

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**Background:** The current staging system places men with tumors detected because of elevated prostate-specific antigen in the T1 group and those with palpable localized prostate cancer in T2. To test the hypothesis that these patients have similar outcomes and other clinicopathologic features and should be grouped together, we studied a series of 291 patients with cT1c and cT2 prostate cancers.

**Design:** From a series of 288 consecutive patients who underwent radical retropubic prostatectomy, we studied those with cT1c (n = 223) and cT2 (n = 65) adenocarcinoma. All specimens were totally embedded and whole-mounted. Tumor volume was measured using the grid method. Clinical and pathologic characteristics were analyzed.

**Results:** Patients with cT2 tumors were more likely to have a higher Gleason score (P = 0.04) and final pathologic stage (P = 0.05), compared to those with T1c tumors. There was no significant difference in age (P = 0.92), preoperative PSA (P = 0.17), prostate weight (P = 0.34), tumor volume (P = 0.16), the largest tumor size (P = 0.12), surgical margin status (P = 0.86) or the presence of perineural invasion (P = 0.09) between patients with clinical stage T1c tumors and those with cT2 tumors. No difference in PSA recurrence was observed between patients with clinical stage T1c tumors and those with cT2 tumors (P = 0.20).

**Conclusions:** Patients with clinical stage T2 tumors have higher Gleason score and final pathologic stage compared to those tumors detected because of elevated serum PSA (T1c). However, the PSA recurrence rate for T1c tumors is similar to cT2 tumors, indicating a need for further refinement of clinical staging system.

### **Editorial Comment**

Tumor found in one or both lobes by needle biopsy, but not palpable or visible by imaging, is classified as T1c. This is a clinical category in the TNM system corresponding to several pathologic findings in the specimen of radical prostatectomy. The study showed that clinical stage T2 tumors have higher Gleason score and final pathologic stage compared to those tumors detected because of elevated serum PSA (T1c), however and most importantly, the PSA recurrence rate for T1c tumors is similar to clinical T2 tumors. The TNM system stratifies prostate carcinoma according to prognosis as evaluated by biochemical recurrence and/or metastases. Based on their findings the authors suggest a further refinement of clinical staging system probably including T1c in the T2 category.

Recently we classified in our Institution 51 stage T1c patients and 104 clinical T2 patients according to the pathologic findings of the radical prostatectomy specimen. The findings were classified as corresponding to minimal, moderate or advanced tumor according to the study published by Epstein et al. (JAMA. 1994; 271: 368-374). The distribution for stage T1c was 19.69%, 60.78% and 19.69% surgical specimens in the categories limited tumor, moderate tumor and advanced tumor respectively; and, for clinical stage T2, 9.61%, 62.5% and 27.9% respectively for the same categories. The statistical analysis did not show significant difference between these two stages (p = 0.165). Our findings also favor a further refinement of clinical staging system.

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**Does pT2b cancer exist? Critical appraisal of the 2002 Tumor-Nodes-Metastasis (TNM) classification of prostate cancer**

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**Background:** Clinical and pathologic staging of prostate adenocarcinoma provides a method for assessing the extent of tumor and predicting patient prognosis. The American Joint Committee on Cancer (AJCC) TNM staging system has undergone recent revisions for stage T2 prostate tumors. T2 tumors are now subclassified as T2a (less than one half of one lobe involvement), T2b (more than one half of one lobe involvement), and T2c (bilateral involvement). Despite general acceptance of the system as a whole, controversy and uncertainty still exist in the application of the TNM staging system, particularly with use of the T2 staging subclassification. We analyzed the 2002 AJCC subclassification for stage T2 prostate cancers in a large series of radical retropubic prostatectomies.

**Design:** The study population consisted of 369 prostate cancer patients treated by radical retropubic prostatectomy. None were treated by hormonal or radiation therapy prior to surgery. Radical prostatectomies were histologically evaluated by complete embedding and whole mount processing. Tumors were initially staged using the 1997 AJCC TNM system, and then reevaluated according to 2002 TNM staging guidelines.

**Results:** The prostate weight ranged from 14 to 149 grams (median, 38 grams). Prostate cancers were multifocal in 312 cases (85%). The majority of the specimens were pathologic stage T2 (276, 75%). Using the 2002 TNM staging criteria, 54 (15%) of the tumors were stage pT2a, 222 (60%) were pT2c, 75 were (20%) pT3a, and 18 (5%) were pT3b. No pathologic stage T2b tumors were identified.

**Conclusions:** Taking into consideration the average prostate weight (35 grams) as well as the predominance of tumor multifocality, it would be unusual to identify tumor involving more than one half of one lobe (approximately 8 cc), without involving the other lobe. We question the existence of a true pT2b tumor.

**Editorial Comment**

This is a very interesting study based on pathologic findings in the specimen of radical prostatectomies questioning the existence of pT2b tumors. None of a total of 369 cancers was stage pT2b. No case involved more than half of one lobe when cancer is unilateral.

We were very curious about and checked this finding in 198 radical prostatectomies performed in our Institution. From the total of 198 specimens, cancer was bilateral in 174 (87.87%) and unilateral in 24 (12.12%). We use for tumor extent evaluation a point-count method published by us in *International Braz J Urol. 2003; 29:113-120*. In all of the 24 specimens with unilateral cancer, extension corresponded to less than half of the lobe. Our findings also question the existence of a true pT2b tumor.

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