

**9th ANNUAL DEPARTMENT OF PATHOLOGY YOUNG INVESTIGATORS' DAY
POSTER SESSION**

**Thursday, April 5th, 2007
TURNER CONCOURSE
REGISTRATION FORM**

**E-mail COMPLETED Registration form and abstract to:
Stacey Morgan (smorgan9@jhmi.edu) on or before
Friday, March 16th, 2007**

**If you have questions or problems regarding your submission, please contact Stacey
Morgan via e-mail (smorgan9@jhmi.edu)**

Applicant's Name: Wenle Wang Degree: M.D., Ph.D.

Applicant's Division: Department of Pathology, GU

Faculty Preceptor: Jonathan Epstein, M.D.
(Must hold a primary appointment in Pathology)

Appointment Category: House Staff Clin Fellow Research Fellow
 Medical Student Graduate Student (Program: _____)

Register for: Clinical Research Translational Research Basic Research

Full Poster Title * SMALL CELL CARCINOMA OF THE PROSTATE: A MORPHOLOGICAL
AND IMMUNOHISTOCHEMICAL STUDY OF 95 CASES

Where has the work been presented?

Meeting Name United State and Canadian Association of Pathology

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Not Previously Presented _____

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***INCLUDE A ONE-PAGE ABSTRACT (including title and all authors) OF THE WORK YOU WILL BE PRESENTING**

SMALL CELL CARCINOMA OF THE PROSTATE: A MORPHOLOGICAL AND
IMMUNOHISTOCHEMICAL STUDY OF 95 CASES

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Small cell carcinoma of prostate is rare, with the literature consisting of case reports and small series. The current work analyzes the morphology and immunohistochemistry of 95 cases of prostatic small cell carcinoma diagnosed at our institution. Specimens included 55 needle biopsies, 27 transurethral resections, 4 radical prostatectomies, and 9 biopsies from metastatic sites (some patients with >1 procedure). Patients ranged in age from 44-92 years old (mean: 69 yrs). While serum PSA in some cases was very high (up to 1896 ng/ml), the median value was only 4.0 ng/ml. Of cases with available information, 33/78 (42%) had a history of usual prostatic adenocarcinoma. The interval between the diagnosis of small cell carcinoma and prior usual prostatic cancer ranged from 1 to 300 months (median 25 months). Pure small cell carcinoma was seen in 54/95 (57%) of cases with the remaining cases admixed with prostate adenocarcinoma. In cases with adenocarcinoma, there was a sharp demarcation between small cell carcinoma and adenocarcinoma in 20.5% of cases; in the remaining cases there was gradual merging of the two components. In mixed cases, small cell carcinoma predominated (median: 80% of the tumor); the Gleason score of the adenocarcinoma was ≥ 8 in 85% of these cases. In 61 cases (64%), small cell carcinoma was classic "oat cell" morphology with remaining the "intermediate cell" variant. Of the 95 cases: necrosis was seen in 40% (2%-95% of the tumor); giant bizarre cells in 19%; Indian filing in 21%; rosette formation in 29%; focal vacuolated cytoplasm in 18%; and desmoplasia in 20%. The vast majority (88%) of small cell carcinoma were positive for at least 1 neuroendocrine marker. In the small cell carcinoma component, 14/73 (19%) were positive for prostate specific antigen (PSA), 17/61(28%) positive for prostein (P501s), and 15/59(25%) positive for prostate specific membrane antigen (PSMA), although often very focally. Stains for TTF-1 were positive in 23/44(52.3%) cases. In this the largest study of prostatic small cell carcinoma we highlight the presence of morphological features that may result in its underdiagnosis. Other more classic histological features of small cell carcinoma along with rosettes are critical for its accurate diagnosis. P501s and PSMA were better in identifying the prostatic origin of small cell carcinoma than PSA, although the majority (60%) of prostatic small cell carcinomas were negative for all 3 markers.