

**PATHOLOGY**

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**Noninvasive urothelial carcinoma of the bladder with glandular differentiation: report of 24 cases**

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Noninvasive urothelial carcinoma (UC) with glandular differentiation in the absence of infiltrating carcinoma is a rare entity that has not been well characterized. We retrieved 24 cases of noninvasive UC of the bladder with glandular differentiation on biopsy (n = 20) or transurethral resection (n = 4) without an associated invasive component. The cases were identified from the consult files of one of the authors between 1992 and 2008. Mean patient age at diagnosis was 70 years (range: 48 to 87 y) and 75% were male. Half of the cases were pure noninvasive UC with glandular differentiation; half were associated with either carcinoma in situ or high-grade noninvasive papillary carcinoma. The glandular component consisted of 1 or more patterns: papillary (46% of cases), glandular (42%), cribriform (33%), and flat (25%). Mitoses, apoptosis, and necrosis were identified in 83%, 67%, and 17% of the biopsies, respectively. One case was a recent diagnosis, and 5 patients either refused treatment or were lost to follow-up. Of the 18 patients with available follow-up information, 9 (50%) did not develop invasive carcinoma; the remaining 9 (50%) eventually developed an invasive bladder tumor. Of these, 2 were small cell carcinoma, 3 were poorly-differentiated UC (2 of these developed widespread metastases), and 4 were UC, not otherwise specified. In both instances of eventual small cell carcinoma, and in 2 of the 3 cases of poorly-differentiated UC, the initial biopsy consisted of pure noninvasive UC with glandular differentiation without carcinoma in situ or noninvasive papillary carcinoma. Of note, none of the patients in the study developed invasive adenocarcinoma.

**Editorial Comment**

Divergent differentiation is a very peculiar capacity of urothelial tumors (1). Squamous differentiation, defined by the presence of intercellular bridges or keratinization, occurs in up to 20% of urothelial carcinomas (2,3). Glandular differentiation is less common than squamous differentiation (4,5). The findings of squamous and/or glandular phenotype in urothelial carcinoma of the bladder is a marker of invasiveness and consequently of a more aggressive behavior. In a study in our institution squamous and/or glandular differentiation was seen in 12/165 (7.27%) transurethral resections of the bladder. All 12 cases were infiltrative (pT1 or pT2 stage) at clinical presentation (6). In the study by Miller and Epstein of noninvasive urothelial carcinoma with glandular differentiation on clinical presentation, of the 18 patients with available follow-up information, 9(50%) developed an invasive bladder tumor.

**References**

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**Recommendations for the reporting of surgically resected specimens of renal cell carcinoma: the Association of Directors of Anatomic and Surgical Pathology**

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A checklist based approach to reporting the relevant pathologic details of renal cell carcinoma resection specimens improves the completeness of the report. Karyotypic evaluation of renal neoplasms has refined but also complicated their classification. The number of diagnostic possibilities has increased and the importance of distinguishing different tumor types has been underscored by dramatic variation in prognosis and the development of targeted therapies for specific subtypes. The increasing number of recognized renal neoplasms has implications for handling renal resection specimens. Furthermore, the prognostic significance of other features of renal neoplasms related to grade and stage has been demonstrated. This guideline for the handling of renal resection specimens will focus on problem areas in the evolving practice of diagnosis, grading, and staging of renal neoplasms. The accompanying checklist will serve to ensure that all necessary details of the renal resection specimen are included in the surgical pathology report.

**Editorial Comment**

The reporting of renal cell carcinoma is facilitated by the provision of a checklist to insure that pathologists provide all of the essential information to enable clinicians to optimize patient care.

The checklist includes the gross description and the diagnostic information:

1. Gross description. Includes how the specimen is received, how the specimen is identified, the type of nephrectomy (total or partial), the length of ureters and the description of other structures. The tumor description includes the site within the kidney, the size in 3 dimensions, the gross characteristics (color, consistency and degree of heterogeneity, the relationship to the perinephric soft tissue with emphasis to the renal sinus fat, renal vein invasion, adrenal invasion, lymph nodes, and other findings (hydronephrosis, pyelonephritis, etc.)

2. Diagnostic information. Includes the histologic type according to the World Health Organization 2004 classification (1): clear cell carcinoma, multilocular cystic carcinoma, papillary carcinoma, mucinous tubular and spindle carcinoma, collecting duct carcinoma, medullary carcinoma, translocation carcinomas (includes Xp11 and 6:11), tubulocystic carcinoma, acquired cystic disease-associated carcinoma, and renal cell carcinoma, unclassified. For the histological grade may be used the Fuhrman scheme (2). Sarcomatoid dedifferentiation is a growth pattern that may occur in any of the major types of renal cell carcinoma. Presence of necrosis has been found to be of prognostic significance (3). The number of nodes sampled and the number positive should be reported. The prognosis appears to be significantly adversely affected by