The conclusion is that the AAST injury severity scale for male external genitourinary injuries now has some initial validation, but more work must be done. Also, the trend towards nonoperative management of injuries of all varieties may be finding some support among serious but selected external genital injuries.

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PATHOLOGY

Benign urothelial papilloma of the bladder: a review of 34 de novo cases

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Mod Pathol. 2004; 17 (suppl 1): 165A

Background: Urothelial papilloma of the bladder is an uncommon entity that represents less than 3% of papillary urothelial neoplasms, when using restrictive diagnostic criteria. The biologic potential of urothelial papilloma of the bladder is uncertain as there are only limited studies published on this issue.

Design: We retrospectively studied 34 patients who were diagnosed with urothelial papilloma of the bladder at one of our institutions between 1989 and 2002. Six cases were in-house and the remaining 28 were referred from other institutions as consults to one of the authors. In all cases, the diagnosis of papilloma was the first manifestation of urothelial neoplasia. All histologic slides were reviewed and met the diagnostic criteria of the 1998 WHO / ISUP classification system.

Results: The mean age of the patients at diagnosis was 57.8 (range, 23-87 years). The male-to-female ratio was 2.4:1 (24 males and 10 females). The tumor size ranged from one 2X to one 40X microscopic field. Some of the distinctive histological features seen were changes in the umbrella cells: vacuolization (4); prominence with cytological atypia (2); eosinophilic cuboidal morphology (1); hobnail morphology (1); and mucinous metaplasia (1). Also noted in 3 cases was prominent edema of the fibrovascular stalks mimicking polypoid cystitis. Follow-up was available in 26 cases with a mean follow-up for those without evidence of progression of 28.9 months (range, 3-127 months). Three patients (8.8%) developed recurrent papilloma 4, 15 and 18 months after the initial diagnosis of papilloma; one of these patients also showed progression to noninvasive low grade urothelial carcinoma at the time of recurrence (15 months). Three patients (8.8%) progressed to higher grade disease: 2 to noninvasive low grade urothelial carcinoma (11 and 15 months after the original diagnosis) and 1 to a papillary urothelial neoplasm of low malignant potential at 104 months and a noninvasive low grade urothelial carcinoma at 141 months from the initial diagnosis of papilloma. None of the patients demonstrated progression to either lamina propria (T1) or muscularis propria (T2) invasion. Two patients died for unrelated causes. None of the patients died of bladder cancer.

Conclusions: Patients with urothelial papillomas have a low incidence of recurrence and rarely progress to develop urothelial carcinoma. It seems reasonable to avoid labeling these patients as having cancer. It remains to be studied whether and when patients with papillomas who have no evidence of recurrence or progression no longer need to be followed.

Editorial Comment

In the World Health Organization / International Society of Urological Pathology (WHO / ISUP) consensus classification of urothelial (transitional cell) neoplasms of the urinary bladder (Am J Surg Pathol. 1998; 22:1435-48), papilloma is a distinct neoplasm from papillary neoplasm of low malignant potential. The former neoplasm is defined as discrete papillary growth with central fibrovascular core lined by urothelium of normal thickness and cytology, frequent vacuolization of umbrella cells and edema of the stroma. There is no need to count the number of cell layers. It is a rare benign condition comprising less than 3% of papillary urothelial neoplasms. Papillary urothelial neoplasm of low malignant potential is a papillary lesion with minimal architectural abnormalities and minimal nuclear atypia irrespective of cell thickness. In general, the major distinction from papilloma is that in papillary urothelial neoplasm of low malignant potential the urothelium is much thicker and/or nuclei are significantly enlarged. The urothelial papilloma, in contrast, has no architectural or cytological atypia.

Both papilloma and papillary urothelial neoplasm of low malignant potential may develop recurrent or new papillary lesions but only the latter may be associated with invasion or metastases in rare cases. The study by Magi-Galluzzi and Epstein disclosed the clinical behavior of 34 de novo papillomas. The follow-up showed that 6 patients had recurrent disease but none progression to either lamina propria (T1) or muscularis propria (T2) invasion. This paper confirms that papilloma and papillary neoplasm of low malignant potential should be considered separately. The urologist should follow-up patients with papilloma but because they have a low incidence of recurrence and rarely progress to develop noninvasive urothelial carcinoma, it seems reasonable to avoid labeling these patients as having cancer.

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Predictive value of pathologic parameters of high-grade prostatic intraepithelial neoplasia (HGPIN) in the initial biopsy for the subsequent detection of prostatic carcinoma (PCa)

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Mod Pathol. 2004; 171(suppl 1): 168A

Background: Recent experience suggests that PCa will be detected on rebiopsy in approximately 27% of patients with initial diagnosis of HGPIN. Knowledge of pathologic parameters of HGPIN that have a higher predictive power would help further stratify management of patients who are at a greater likelihood of having undetected carcinoma in the prostate gland.

Design: 153 initial biopsy cores from 80 patients with HGPIN (41 diagnosed subsequently with PCa and 39 without PCa on rebiopsy) with a minimum follow up of 2 years were evaluated. In each case the following parameters of HGPIN were assessed without knowledge of which cases had subsequently developed PCa : number of cores involved, number of glands with HGPIN per core, architectural pattern (micropapillary, tufted, flat, cribriform), cytoplasmic features, nuclear pleomorphism, presence of mitoses, nucleolar features [prominent nucleoli (<50% or =50% in PIN glands), ease of nucleolar recognition (at 10X, 20X or 40X objective), presence of multiple nucleoli], presence of necrosis, apoptosis, intraluminal crystalloids, blue mucin and presence

of associated features including atrophy, inflammation and stromal reaction. Pathologic parameters of HGPIN were correlated with detection of PCa in subsequent biopsy (ies).

Results: 66.7% of patients with two or more cores involved by HGPIN had PCa on subsequent biopsy. In contrast, 38.6% of patients with only one core with HGPIN were detected to have PCa (p=0.015, Fishers exact test). Tufted and flat were the most common architectural patterns. The presence of micropapillary HGPIN was associated with greater likelihood of subsequent PCa detection (p=0,041, Pearson x2 test). By multivariate analysis, pattern of HGPIN (micropapillary and cribriform) was the only independent predictor of cancer on rebiopsy (p=0.013, RR 4.586). Other pathologic variables failed to have predictive value for subsequent detection of PCa.

Conclusions: Patients with initial diagnosis of HGPIN, which demonstrates micropapillary or cribriform architecture or is present in multiple cores, should be candidates for more aggressive investigation to detect PCa, potentially by early rebiopsy and more aggressive sampling.

Editorial Comment

High-grade prostatic intraepithelial neoplasia (HGPIN) is considered a precursor lesion of invasive prostate carcinoma. This is evidenced by several findings: HGPIN is more frequent in patients with than without prostate carcinoma; in some rare cases, it is possible to document a transition between HGPIN and invasive carcinoma; the mean age of patients with HGPIN is lower than patients with invasive carcinoma; and, there are similarities between phenotypic and genotypic findings between these 2 conditions.

Many terms were used to refer to this condition. In 1989, during a consensus workshop held in Bethesda, MD, USA (Urology. 1989; 34: (suppl.) 2-3) it was suggested to use the term prostatic intraepithelial neoplasia (PIN). In this consensus meeting was also agreed to refer in the pathology report only high-grade PIN (grades 2 or 3) and not low-grade PIN (grade 1). Bostwick et al. (Hum Pathol. 1993; 24: 298-10) described 4 architectural patterns of HGPIN: micropapillary, tufted, flat, and cribriform. These are considered morphologic variants without any predictive value.

This paper showed that the architectural patterns of HGPIN might have importance to predict prostate cancer on subsequent biopsies. By multivariate analysis, the micropapillary and cribriform patterns of HGPIN were independent predictors of cancer on rebiopsy. Based on this paper, for the urologist is worth asking the pathologist to include in the pathology report the architectural pattern of HGPIN.

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INVESTIGATIVE UROLOGY

Comprehensive evaluation of ureteral healing after electrosurgical endopyelotomy in a porcine model: original report and review of the literature

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J Urol. 2004; 171 (2 Pt 1): 859-69