Ten Best Readings

TEN BEST READINGS ON BLADDER CANCER

Julio M. Pow-Sang, MD

From the Genitourinary Oncology Program, H. Lee Moffitt Cancer Center & Research Institute, University of South Florida, Tampa, Fla.

The ten best articles in the medical literature relating to bladder cancer are reviewed here.

deVere White RW, Deitch AD, Daneshmand S, et al. The prognostic significance of S-phase analysis in stage Ta/T1 bladder cancer: a Southwest Oncology Group Study. *Eur Urol*. 2000;37:595-600.

Cell cycle analysis by flow cytometry was performed on 249 Ta/T1 bladder cancers. High S-phase fraction, an indicator of rapid proliferation, contributed prognostic information about tumor progression and was additive to tumor grade.

Advanced Bladder Cancer Overview Co. Neoadjuvant cisplatin for advanced bladder cancer. *Cochrane Database Syst Rev*. 2000;2:CD001426.

There is insufficient information to obtain a definitive answer to the question of whether neoadjuvant cisplatin-based chemotherapy improves the survival of patients with locally advanced bladder cancer.

Ghoneim MA, El-Mekresh MM, Mokhtar AA, et al. A predictive model of survival after radical cystectomy for carcinoma of the bladder. *BJU Int*. 2000;85:811-816.

Tumor pathologic stage, grade, and nodal involvement were the only factors having an independent and significant association with survival. Applying the model to a prospective test series validated the results.

Inoue K, Slaton JW, Kim SJ, et al. Interleukin 8 expression regulates tumorigenicity and metastasis in human bladder cancer. *Cancer Res*. 2000;60:2290-2299.

IL-8 expression enhances angiogenic activity through the induction of matrix metalloproteinase type 9 and subsequently regulates the tumorigenesis and production of spontaneous metastases of human transitional cell carcinoma.

Castelao JE, Yuan JM, Gago-Dominguez M, et al. Non-steroidal anti-inflammatory drugs and bladder cancer prevention. *Br J Cancer*. 2000;82:1364-1369.

Regular analgesic users were at a decreased risk of bladder cancer. There were differences in the direction and strength of the associations between the different classes of analgesics and bladder cancer risk.

Pavlovich CP, Kraling BM, Stewart RJ, et al. BCG-induced urinary cytokines inhibit microvascular endothelial cell proliferation. *J Urol*. 2000;163:2014-2021.

A variety of molecules that affect angiogenesis are induced locally by the administration of intravesical bacillus Calmette-Guérin (BCG). In this study, intravesical BCG induced a cytokine-rich urinary microenvironment that was inhibitory to human endothelial cells.

Marcus PM, Hayes RB, Vineis P, et al. Cigarette smoking, N-acetyltransferase 2 acetylation status, and bladder cancer risk: a case-series meta-analysis of a gene-environment interaction. *Cancer Epidemiol Biomarkers Prev*. 2000;9:462-467.

This meta-analysis comprises 1,999 individuals in 16 bladder

cancer studies conducted in the general population. The study concludes that the risk of bladder cancer for individuals who had ever smoked was 35% for slow acetylators and 13% for rapid acetylators.

Brennan P, Bogillot O, Cordier S, et al. Cigarette smoking and bladder cancer in men: a pooled analysis of 11 case-control studies. *Int J Cancer*. 2000;86:289-294.

A combined analysis of 11 case-control studies produced the following findings: (1) A linear increasing risk of bladder cancer with increasing duration of smoking was observed. (2) A dose relationship was observed between the number of cigarettes smoked per day and bladder cancer up to a threshold limit of 15 to 20 cigarettes per day. (3) An immediate decrease in risk of bladder cancer was observed for those who quit smoking.

Lamm DL, Blumenstein BA, Crissman JD, et al. Maintenance bacillus Calmette-Guérin immunotherapy for recurrent TA, T1 and carcinoma in situ transitional cell carcinoma of the bladder: a randomized Southwest Oncology Group Study. *J Urol*. 2000;163:1124-1129.

This randomized study addressed the role of maintenance bacillus Calmette-Guérin intravesical therapy. Compared to standard induction therapy (6 weekly treatments), the addition of maintenance for 3 years was beneficial for patients with carcinoma in situ and for select patients with Ta or T1 bladder cancer. Median recurrence-free survival time was twice as long in the maintenance arm compared with the no-maintenance arm, and patients had significantly longer worsening-free survival.

Czerniak B, Li L, Chaturvedi V, et al. Genetic modeling of human urinary bladder carcinogenesis. *Genes Chromosomes Cancer*. 2000;27:392-402.

A model was developed for human urinary bladder cancer progression starting with in situ precursor lesions to invasive carcinoma using whole-organ histologic and genetic mapping. Chromosomes 4, 8, 9, 11, and 17 were assessed for allelic losses. The majority of statistically significant allelic losses (70%) occurred early, in low-grade tumors and in adjacent areas of morphologically normal mucosa. The remaining 30% occurred in the later phases of urothelial neoplasia.