

## The Spectrum of Genitourinary Malignancies

Genitourinary malignancies are composed of cancers of the prostate, bladder, kidney, testis, and penis. The challenges presented by these malignancies parallel those confronting investigators and practicing clinicians in treating all other cancers. Smoking, which is strongly associated with the development of lung cancer, is responsible for one third of bladder cancers, and several studies implicate obesity with an increased risk for colon, breast, and kidney cancers. Historical developments in the management of genitourinary malignancies are similar to the developments in other cancers. Surgery was the only treatment possible until the beginning of the 20th century, when radiation therapy became available.

Chemotherapeutic agents appeared after World War II and were rapidly applied in the treatment of most malignancies. With advances in chemotherapies and further technological improvements in radiation therapy, the concept of multimodality therapy became more established and refined. With the explosion of molecular technologies to investigate genetic and protein changes leading to the initiation, promotion, formation, and progression of tumors, genitourinary and other malignancies are now being evaluated at their most fundamental level.

Testicular cancer became one of the first malignancies to be suc-

cessfully cured with chemotherapy. In this issue, Dr Richard Foster and Dr Richard Bihrl address the contemporary role of retroperitoneal lymph node dissection for different stages of testicular cancer. In patients with early-stage disease, surgery offers an excellent chance of cure with preservation of fertility and minimal morbidity. In advanced disease that has failed chemotherapy, many patients may still be treated by surgical removal of residual tumor.

Bladder cancer presents several management challenges. When still superficial (clinical stages Ta, Tis, T1), transurethral resection alone or with the addition of intravesical therapy provides excellent control for the majority of tumors. With invasive, non-metastatic bladder cancer, the initial transurethral resection of the tumor is critical in determining staging and subsequent adequate management. Dr Rafael Carrion and Dr John Seigne address the surgical management of bladder cancer in these different scenarios. They stress the importance of maximal transurethral resection when considering multimodality treatments with systemic chemotherapy and radiation therapy for muscle-invasive bladder cancer. They address the definitive treatment by cystectomy, the different approaches to urinary reconstruction, and the cancer control outcomes with surgery.

The field of immunotherapy is rapidly expanding, and it is particularly pertinent to patients with renal cell cancer since clinical benefit can often result from its application. Several clinical trials are currently underway as a consequence of better technology and the understanding of immune interactions between tumor and host. Dr Mayer Fishman and Dr John Seigne review the current knowledge in the field of immunotherapy for kidney cancer.

Penile cancer is a rare disease in developed countries. Dr Mariela Pow-Sang and colleagues address the management of penile cancer and share their extensive experience with this uncommon tumor. Sentinel node evaluation, widely used for breast cancer and melanomas, was initially described in testicular cancer 25 years ago. The authors report on the improvements in lymphatic mapping combining blue dye staining and a radiolabeled colloid marker. These advanced techniques will further decrease the morbidity associated with a formal ilioinguinal lymph node dissection.

Since first reported over half a decade ago, hormonal therapy is the mainstay in the management of metastatic prostate cancer. Many unanswered questions remain regarding the timing, scheme and length of treatment for early and advanced disease. Dr Stephen Pat-

---

terson and associates revisit the issues surrounding the hormonal management of prostate cancer, and they review recent trials that attempt to answer these questions.

With the widespread use of abdominal imaging techniques, adrenal tumors are now being detected more often. Dr Sergio Moreira and I review the literature regarding the evaluation and management of the adrenal mass, and we propose a diagnostic, evaluation, and management algorithm that may be useful to the practicing physician when treating an adrenal mass.

Accurate staging is critical in the initial evaluation of patients presenting with cancer. Positron emission tomography has recently been approved for the evaluation of selected patients with lung cancer and melanoma. Dr Oleg Shvarts and associates address the evolving role of positron emission tomography in the evaluation of urologic cancers.

In a recent address to the Florida Prostate Cancer Network in Tampa, Dr Andrew von Eschenbach, the newly appointed Director of the National Cancer Institute, discussed the challenges facing us in our fight against cancer. He described the position of the investigator dealing with cancer as privileged due to both the support of federal grants and the availability of newer molecular technologies that currently allow us to further our understanding of malignancies at their most fundamental level. Together, these advances and support have presented tremendous

opportunities not available until now. Dr von Eschenbach called on researchers, patients, and the federal government to grasp these opportunities and unite in our continuous fight against cancer.

Today, our patients with genitourinary cancers face a significantly better outlook than they did even one decade ago. Dramatic advances across the spectrum of genitourinary malignancies have improved the diagnosis and treatment of these diseases, enlarged our armamentarium – from observation to radiation to surgery – and minimized the sequelae from these illnesses. The 5-year survival rate for urinary bladder cancer, for instance, is now 82% compared with a rate of 74% seen in 1976. Ongoing progress in patient care, research, education, and prevention will continue to brighten the prognosis of genitourinary cancers through new applications in interventions and therapies.

**Julio M. Pow-Sang, MD**

Program Leader, Genitourinary Oncology  
Program  
H. Lee Moffitt Cancer Center & Research  
Institute  
Tampa, Florida