

## Prostate Cancer at the Beginning of the 21st Century: More Options and Better Outcomes

The dawn of the 21st century witnessed momentous advances in our understanding of prostate cancer: refinements in molecular and cell biology technology, better diagnostic and staging methods, improvements in local treatments, and the discovery of more effective chemotherapies, just to mention a few. Still, there is much to learn about this common disease. We lack knowledge of the fundamental mechanisms leading to the initiation, promotion, and progression of this cancer. We have multiple choices, but we still do not know what is the best treatment for localized disease, and a significant percentage of patients who undergo treatment for early disease progress to advanced cancer. When the cancer is advanced, the disease is currently incurable.

This issue of *Cancer Control* addresses four major topics in prostate cancer: the management of hormone-refractory metastatic disease, the initial treatment options available for organ-confined disease, the recognition and management of complications derived from these local "definitive" treatments, and a review of the pathology and molecular biology of this disease.

There is a clear-cut need for more effective treatments for hormone-refractory cancer as all

patients who initially respond to hormonal therapy will eventually fail and suffer from progression of their cancer. Julie A. Kish, MD, and colleagues discuss the controversies regarding the management of hormone-refractory cancer and review recent trials that evaluate promising new chemotherapeutic agents.

At present, the majority of patients with newly diagnosed prostate cancer present with organ-confined disease requiring local definitive treatment. With improvements in techniques and technology, local definitive treatments for prostate cancer are improving control of the cancer while decreasing treatment-related complications. A previous issue of *Cancer Control* (March/April 2001) addressed the management of localized cancer by brachytherapy and by observation. In this issue, Raviender Bukkapatnam, MD, and I review the evolution of surgical techniques in the management of localized prostate cancer. We present our institutional experience with conventional surgery and describe the recent incorporation of laparoscopic techniques for removal of the tumor-involved prostate.

Robert A. Zlotecki, MD, PhD, discusses the technological advances in external-beam radiation therapy and the new develop-

ments in equipment and computers that allow for safer delivery of higher radiation therapy doses to the prostate.

High-dose radiation therapy in combination with external-beam radiation therapy is currently performed at a few centers around the country. Syed and associates review the present state of knowledge with this approach and describe the outcomes from their large series of patients treated by high-dose radiation therapy.

Cryosurgery has recently received Medicare approval for the treatment of localized prostate cancer and for the treatment of radiation therapy failures. This treatment was seldom performed due to limitations in providing adequate freezing and concerns regarding the safety of the procedure. Better technology has addressed these drawbacks and now allow for delivery of therapeutic freezing to the prostate with simultaneous protection of the urethra, bladder and rectum to decrease complications. Gary Onik, MD, describes his large experience with this treatment approach.

Preservation of quality of life is as important as cancer control in the management of cancer. Two of the major complications associated with any local treatment for

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prostate cancer are incontinence and impotence. Philippe Grise, MD, and Scott Thurman, MD, review the natural history and management of urinary incontinence, and Cláudio Telöken, MD, PhD, discusses the incidence and treatment of erectile dysfunction.

Finally, in the Pathology Update section, Linda B. Mora, MD, MBA, and colleagues review the current status of pathology and molecular biology in prostate cancer and its potential applications in the management of prostate cancer.

If the dawn of this new millennium witnessed momentous advances in our knowledge of cancer, the next several years will witness even more dramatic discoveries that will give thrust to our mission in contributing to the prevention and cure of cancer. Meanwhile, many patients with prostate cancer can take solace in the knowledge that there are several highly effective options for managing the most common localized stages of the disease and that research on defining the management of more advanced stages of disease is showing very promising results.

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