

Minimally Invasive Procedures in Urologic Oncology: When Less Becomes More

When dealing with localized cancer, a common misperception prevails — that the probability of success is directly proportional to the magnitude of intervention provided. Until recently, traditional approaches in treating early malignancies involved open surgery or radiation therapy. Today, however, this conventional wisdom has been challenged due to improvements in current technologies, the development of new ones, and a better understanding of the biological behavior of cancer at early stages. These changes are shifting the paradigm towards less intervention while optimizing cancer control and improving the quality of life of our patients.

Renal lesions are detected at smaller sizes with increasing frequency. These lesions are often found incidentally, and until recently, many were managed by radical or partial nephrectomy. Today, systems have been developed that can deliver lethal heat or cold temperatures to allow some of these lesions to be managed by radiofrequency ablation (RFA) or cryosurgery. RFA uses a computer-controlled generator that provides an alternating current. The tissue's impedance to this current leads to local tissue hyperthermia. The increased temperature produces irreversible cell injury. Drs Park and Cadeddu present the RFA technique and discuss the outcomes when this technology is applied in the management of small renal lesions.

Cryosurgery leads to cell death by delivering sub-freezing temperatures to the tumor. In this issue, Drs Hafron and Kaouk discuss the different surgical approaches and the outcomes of cryosurgery in the management of early kidney cancer.

Over the last several years, we have seen a stage migration in prostate cancer toward the diagnosis of earlier disease. Today, approximately two thirds of these cancers are diagnosed at an early stage compared with only one third a decade ago. This stage migration

is due to the wider use of the serum tumor marker prostate-specific antigen (PSA), increased awareness by physicians and patients, and the ease of performing prostate biopsies.

Dr Chin and coauthors review the state of cryosurgery in both the primary and salvage setting. The newer systems allow for real-time planning and more accurate control of the delivered temperature.

Brachytherapy is now a mature technology, with long-term outcomes now reaching beyond 15 years. Dr Heysek discusses the application of this technology in the management of prostate cancer. Another approach — high-intensity focus ultrasound (HIFU) — is currently performed in Europe, Canada, and other parts of the world. In the United States the trials seeking FDA approval are just starting. Dr Murat and coworkers report their experience with this technology.

The surgical approach to localized urologic malignancies is shifting from the traditional open access to laparoscopy. As surgeons become more familiar and skilled with this procedure, open surgery will be reserved for large, complex masses. Throughout this issue of *Cancer Control*, the application of laparoscopy for urologic malignancies is presented. The long-term outcomes of laparoscopic partial nephrectomy were recently reported and compared with the open approach. Laparoscopy is now the preferred approach in many centers for the management of localized kidney cancer. Dr Al-Qudah and colleagues review the surgical approach with laparoscopy.

Surgery for prostate cancer is now performed through a laparoscopic approach in more than half of the cases. The DaVinci robot has enabled more surgeons to offer this surgical approach. My colleagues and I discuss the evolution of the technique, our experience with the procedure, and the outcomes with both pure and robotic-assisted prostatectomy.

Disclaimer: All articles published in this journal, including editorials and letters, represent the opinions of the authors and do not necessarily reflect the opinions of the editorial board, the H. Lee Moffitt Cancer Center & Research Institute, Inc, or the institutions with which the authors are affiliated unless clearly specified. The reader is advised to independently verify the effectiveness of all methods of treatment and the accuracy of all drug names, dosages, and schedules. Dosages and methods of administration of pharmaceutical products may not be those listed in the package insert and solely reflect the experience of the author(s) and/or clinical investigator(s).

Retroperitoneal lymph node dissection is a less common procedure because the majority of patients with stage I testis cancer can be managed by surveillance and chemotherapy if needed. Nevertheless, surgery is indicated in selected cases of stage I cancer and in patients with residual retroperitoneal lymphadenopathy after chemotherapy. Dr Correa and colleagues provide a discussion of the application of laparoscopy in the management of testis cancer.

The technologic innovations discussed in this issue, which will occur more rapidly in years to come, will further minimize the invasiveness of our current procedures while improving the quality of life of our patients with cancer.

This issue of *Cancer Control* also includes two articles in the ongoing Cancer, Culture and Literacy section. Dr McMillan and colleagues lead off by describing that rural working women in Appalachia often distrust the available medical system but that this distrust can be overcome by properly conceived education programs that reach women where they live and work. In the second article, Dr Halbert and coworkers describe several differences in cultural beliefs and values between African American and European American men with prostate cancer.

Lastly, the "Special Reports" section includes two informative articles relating to the always "hot" topic of targeted treatments for patients with solid tumors. In the first article, Drs Homsy and Daud describe the science behind VEGF/PGDF inhibitors and their clinical application. This article is complemented by a report from Dr Rocha-Lima and colleagues, who review the current status of EGFR targeting.

I am sure you will find reading this issue of the journal both enjoyable and rewarding — and don't forget to take advantage of our CME feature. It is really quite easy to earn 4 CME credits online!

Julio M. Pow-Sang, MD

Professor of Surgery & Oncology
Division Chief, Genitourinary Oncology Division
Deputy Editor, *Cancer Control*
H. Lee Moffitt Cancer Center & Research Institute
Tampa, Florida