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# EDITORIAL

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## **Metastatic renal cell cancer: clinical trials, bench-to-bedside research, and what is best for our patients...**

**M**etastatic renal cell cancer remains one of the most difficult challenges for affected patients and their treating physicians. Mortality rates remain high despite decades of intensive research to find the "magic bullet" cure. Patients cannot be cured by surgical removal of the primary tumor, although this has been advocated in the past based on a few anecdotal reports of spontaneous regression of metastases following nephrectomy. Removal of a solitary metastasis can result in prolonged disease-free survival. However, most attempts at surgical intervention result in the discovery of additional, previously undetected metastases. Chemotherapy (by single or multi-agent regimens) and radiation therapy have also been tried but have proven to be ineffective.

Immunotherapy with high-dose interleukin-2 (IL-2) was developed in the 1980s and was subsequently approved by the Food and Drug Administration (FDA) for the treatment of metastatic renal cell cancer and melanoma. Although it is currently the most effective treatment modality resulting in substantial, durable partial response and some complete remission, intravenous treatment has very high toxicity, and only otherwise healthy patients with good performance status make acceptable candidates for this therapy. Efforts to reduce toxicity by lowering the doses or by exploring alternative modes of administration also appeared to reduce its effectiveness. Adoptive immunotherapy with the administration of lymphokine activated killer cells, tumor infiltrating lymphocytes, or activated cells derived from lymph nodes did not increase the effectiveness of high-dose IL-2.

Delongchamps and Peyromaure on page 3669 of the current issue discuss the principles of targeted therapies recently approved by the FDA for the treatment of metastatic kidney cancer. These are newly developed drugs whose approval came after vigorous clinical trials. The importance of participation in clinical trials is highlighted in the editorial remarks by Casey on page 3715. Bringing therapies designed at the laboratory bench to benefit patients at their bedside is an arduous, time consuming, expensive process that is also thoroughly scrutinized and heavily regulated. It is only through the participation of physicians and patients that these advances can be developed, however, so the importance of the clinical trial process cannot be overemphasized.

As the response rates of the increasing variety of treatment modalities for the kidney cancer patient are being assessed and compared, we will need to develop innovative algorithms for treatment. Future issues of the CJU will continue to address these timely concerns.

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