

# Study confirms clinical benefit for interleukin-2 immunotherapy in patients with advanced kidney cancer

7 May 2014, by Annie Deck-Miller

(Medical Xpress)—A retrospective study published online ahead of print in the medical journal *Urology* by a physician team from Roswell Park Cancer Institute (RPCI) found that patients with metastatic kidney cancer—even those with chronic renal insufficiency—can tolerate and benefit from a treatment called high-dose interleukin-2 (HDIL-2) immunotherapy.

Patients with metastatic renal cell [carcinoma](#) face a [poor prognosis](#); currently, 30% of [patients](#) already have metastatic disease at the time of diagnosis, according to national data. HDIL-2 therapy, approved by the U.S. Food and Drug Administration (FDA) in 1992, is a type of biologic treatment that manipulates the immune system to attack cancer cells. Interleukins are proteins produced by the body's white blood cells to defend against bacteria, viruses and other foreign invaders. Treating with high doses of a laboratory-made interleukin activates the body's production of T-cells, natural killer cells and antibodies that fight the cancer.

Because the therapy poses potentially dangerous side effects such as rapid heart rate, low blood pressure and kidney dysfunction, the treatment is used only in a carefully controlled hospital setting in select patients who are otherwise healthy enough to tolerate it. The Roswell Park study, however, shows that more patients than previously thought may be good candidates for this complex and aggressive therapy.

In their study, the RPCI team analyzed medical records from 88 kidney cancer patients with metastatic disease who were treated with HDIL-2 therapy at RPCI between 2004 and 2011. They found that the treatment was well tolerated, even among patients with pre-existing renal impairment; caused no long-term renal toxicity; and resulted in

impressive clinical responses. Four patients had a complete response, 10 had a partial response and 28 had stable disease. The estimated two-year overall survival was 60.6%. These results were similar to those of other recent IL-2 studies, but are significant because the RPCI team demonstrated an effective approach for managing toxicities.

HDIL-2 remains the only FDA-approved treatment option with durable remissions and a proven track record for cure. A partial response to treatment is considered significant because the effect can be long-lasting.

"The data tells us that in our specialized setting, we can safely provide this treatment to more patients, even those with [chronic renal insufficiency](#)," says lead author Thomas Schwaab, MD, PhD, assistant professor in the departments of Urology and Immunology. "Our clinical results continue to be impressive in this otherwise lethal disease."

RPCI's inpatient IL-2 clinic is one of the few high-volume centers for this therapy in the nation. A multidisciplinary team of experts delivers the treatment under careful monitoring, pre-emptive care and timely treatment for side effects.

Provided by Roswell Park Cancer Institute

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