Kidney Cancer Treatment

Several new medications for kidney cancer have been approved in recent years.

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Kidney cancer rates have risen over the past few decades, but the number and effectiveness of new treatments have increased as well, leading to improved survival.

About 76,000 people will be diagnosed with kidney cancer this year, according to the American Cancer Society. Renal cell carcinoma (RCC) accounts for about 90% of these cases; clear cell carcinoma is the most common type of RCC.

Kidney cancer may not cause symptoms during its early stages. This makes it challenging to detect at a more treatable stage, and many people are diagnosed after they have developed advanced disease.

If symptoms do occur, they may include blood in the urine, pain in the lower back or side, lumps in the abdomen, unintentional weight loss and anemia. Diagnosis involves blood tests, urinalysis and scans to look for tumors and see how much the cancer has spread. A biopsy, or removal of a small tissue sample for examination in a laboratory, may be performed.

Treatment Options

Treatment for kidney cancer depends on how advanced it is and whether it has spread to other parts of the body. Because kidney cancer often grows slowly, small tumors are sometimes monitored without treatment to see whether they progress—an approach known as active surveillance.

Surgery (nephrectomy) is the main approach for kidney cancer, and it can lead to a cure if the cancer is confined to the kidney. The surgeon may remove part of a kidney or the entire organ. Most people can live a healthy life with only one kidney.

Kidney Cancer Drugs

Kidney cancer generally does not respond well to chemotherapy, but other types of medications can lead to good outcomes.

Targeted therapies work against cancer with specific characteristics. Typically, they interfere with signaling pathways that regulate cell growth.

Most kidney tumors overproduce vascular endothelial growth factor (VEGF), a protein that promotes the formation of blood vessels. Anti-angiogenesis drugs block this process and starve tumors. VEGF inhibitors include the monoclonal antibody Avastin (bevacizumab) and several tyrosine kinase inhibitors (TKIs). Another type of targeted therapy, mTOR inhibitors, block both VEGF and proteins that spur kidney cancer growth.

Immunotherapy helps the immune system fight cancer. Checkpoint inhibitors work by restoring T cells' ability to recognize and destroy cancer cells. Four checkpoint drugs are approved for the treatment of kidney cancer.

Avastin and checkpoint inhibitors are administered by IV infusion, usually every two or three weeks. TKIs are taken as pills once or twice daily. Like all medications, these drugs can cause side effects, which in some cases may be serious.

These medications often halt kidney cancer growth and even shrink tumors. But targeted therapies can stop working as the cancer becomes resistant, and immunotherapies don't work for everyone. Studies have shown that combination regimens—for example, a targeted therapy plus an immunotherapy drug—can be more effective.

Kidney cancer treatment has evolved rapidly in recent years, and several new therapies are in development. Ask your doctor whether a clinical trial might be a good option for you.
