





Kidney and Prostate Cancers

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Each year, approximately 58,000 people in the United States are diagnosed with kidney cancer. In this chapter, we discuss advanced kidney cancer, which is cancer that has grown out of the kidneys into the surrounding tissue or has spread to a nearby lymph node or to the major blood vessels of the kidneys. (The lymph nodes are a linked system of small bean-shaped structures throughout the body that filter out and destroy bacteria and other harmful substances.)

We also discuss metastatic kidney cancer, in which the tumor has spread into more than one lymph node or to other areas of the body, such as the lungs, bone, or brain.



This chapter includes a discussion of metastatic prostate cancer, in which the tumor has spread beyond the prostate to other parts of the body. Approximately 192,000 men in the United States are diagnosed with prostate cancer every year.

Kidney Cancer

PAZOPANIB FOR ADVANCED KIDNEY CANCER

Pazopanib appears to be an effective way to stop tumors from growing.

Pazopanib is one of the newest additions to the targeted treatments used for kidney cancer. Based on the results of a recent clinical trial, it seems to be effective at stopping tumors in the kidneys from growing.

Unlike chemotherapy, targeted treatments block specific cell mechanisms that are thought to be important for cancer cell growth. Targeted treatments are meant to spare healthy tissues and cause less severe side effects. Three targeted treatments that are already approved for people with advanced or metastatic kidney cancer are sorafenib (Nexavar), sunitinib (Sutent), and temsirolimus (Torisel).

More than 400 people with advanced kidney cancer took part in this clinical trial on pazopanib. Some of these patients had not been treated before for their advanced cancer, and others had already been treated with a type of immunotherapy—a treatment designed to help the immune system kill cancer cells.

Pazopanib reduced the risk of the tumor growing by 54 percent, compared with placebo (a look-alike pill containing no active ingredient). As with sunitinib and sorafenib, it took longer for the tumor to grow in patients who received pazopanib than in those who did not (more than nine months versus about four months).

The results were better in those who had not already been treated for their metastatic cancer. People in this group who received pazopanib went 11 months before their tumor started to grow again, compared with less than three months for those who had been treated before and those who received the placebo.

Researchers do not yet know whether these results will lead to longer lives for these people, but they are hopeful. Another clinical trial is comparing pazopanib with sunitinib in people who have not received treatment for advanced kidney cancer. The results of this clinical trial should help doctors find out whether one drug is more beneficial than the other.

BEVACIZUMAB WITH INTERFERON ALFA FOR METASTATIC KIDNEY CANCER

The combination of bevacizumab (Avastin) and interferon alfa (Roferon-A) may stop tumors from growing and perhaps help people live longer.

The final results of two large clinical trials show that the combination of the targeted drug bevacizumab (Avastin) and interferon alfa (Roferon-A, another cancer drug) is an effective treatment for metastatic kidney cancer. It has been shown to shrink tumors and prolong the time it takes for the cancer to grow. When given to people who have also been treated with sunitinib or sorafenib, the combination may even extend their lives.

Nearly 1,400 people who had metastatic kidney cancer took part in the clinical trials. None of these patients had received treatment for their metastatic kidney cancer before joining these clinical trials.

In both clinical trials, bevacizumab and interferon increased the time it took for the tumor to grow. For instance, in the first study, it took longer for the cancer to grow in those treated with the combination (nearly eight-and-a-half months) than in those who were treated with interferon only (nearly five months).

The best results were seen in patients treated with the combination who also received additional treatment such as sunitinib or sorafenib. On average, these people survived

between 39 and 44 months after treatment. People in both studies who were treated with just interferon alfa survived between 17 and 21 months.

Many clinical trials often compare newer and older treatments to learn which ones are the most effective in stopping the growth of cancer and in helping to extend the lives of people with cancer. For instance, in these clinical trials in kidney cancer, the main goal was to find out whether a given treatment could improve survival.

Of course, the hope for every cancer treatment is that it will help people live longer. However, in some cases, such as in kidney cancer, researchers believe that progression-free survival—that is, the length of time people with cancer can go before the tumor starts growing again—offers a faster way to evaluate a new treatment.



THE NEXT GENERATION OF DRUGS FOR TREATING KIDNEY CANCER

Clinical trials are currently underway to study a number of new drugs that show promise for treating metastatic kidney cancer. It is important to remember that these studies are at the very beginning of the evaluation process for new drugs and that they are available only through clinical trials.

AV-951, ABT-869, BAY 73-4506, and perifosine are among the promising drugs being tested for people with advanced or metastatic kidney cancer.

AV-951, also known as tivozanib, has shown early positive results in treating more than 250 people with kidney cancer. After 12 weeks of treatment with AV-951, the tumor had not grown in nearly 60 percent of patients. The time it took for the tumor to start growing again was just about one year. Also, the tumor either disappeared or shrank by at least 50 percent in almost one-quarter of the patients who received AV-951.



The most common side effect of AV-951 appeared to be high blood pressure, which was treated with standard medication. AV-951 will be studied further to confirm these results.

AV-951 belongs to the same class of targeted treatments

as sorafenib and sunitinib. All of these drugs are called vascular endothelial growth factor (VEGF) inhibitors. VEGF is a protein that stimulates blood vessels to extend into tumors in order to supply them with the blood and nutrients they need to grow. When tumor cells spread through the body, they release VEGF to create new blood vessels. VEGF inhibitors such as AV-951 work by blocking VEGF from stimulating the growth of new blood vessels in advanced kidney tumors.

Another VEGF inhibitor, ABT-869, has been tested in a small study of 53 people with advanced kidney cancer. All of these

patients had already been treated with sunitinib and surgery to remove part or all of a kidney. Doctors have learned that people whose cancer no longer responds to treatment with one VEGF inhibitor may respond to another one.

Early results with ABT-869 have shown that it shrank tumors in nine percent of patients. It also stopped the tumors from growing for more than five months. Diarrhea and fatigue were the most common side effects of ABT-869.

BAY 73-4506 is also a VEGF inhibitor that seems to be an effective way to treat metastatic kidney cancer or kidney tumors that cannot be removed surgically. In a clinical trial, the tumor shrank in 88 percent of the patients treated with BAY 73-4506.

About half of those treated with BAY 73-4506 experienced fatigue and high blood pressure. More than 60 percent of patients given the drug developed hand-foot syndrome, a condition marked by pain, swelling, numbness, or redness of the hands or feet. In two-thirds of these people, the skin reactions were mild.

Lastly, the drug perifosine has been tested in 44 people with metastatic kidney cancer. These patients had already been given a VEGF inhibitor, but their cancer no longer responded to this treatment. When they were treated with perifosine, it took 15 weeks before the cancer continued to grow. In certain patients, this medication may also be able to shrink the tumor.

Researchers hope that further studies will show just how effective these new medications may be in treating advanced or metastatic kidney cancer.

Prostate Cancer

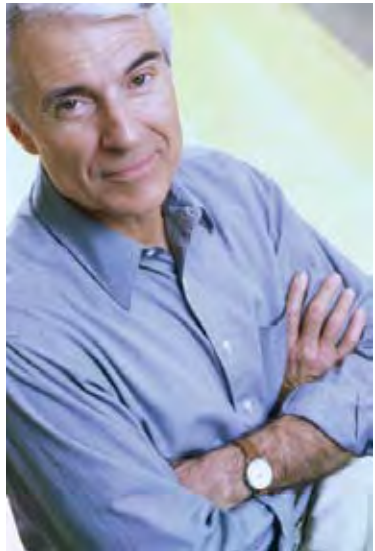
HORMONE THERAPY AFTER SURGERY FOR PROSTATE CANCER

Hormone therapy may extend the lives of men whose prostate cancer has returned.

According to a recent study, early hormonal therapy may extend the lives of some men whose prostate cancer returns after surgery.

Hormonal therapy has been given to men with prostate cancer since the early 1940s, when doctors discovered that the male hormone testosterone fuels the growth of prostate cancer. This treatment lowers a man's testosterone levels and is a standard treatment for advanced prostate cancer today.

More than 100 patients took part in this clinical trial. All of the men had surgery to remove the entire prostate and some of the tissue around it. Within two years of this surgery, they experienced what is called a biochemical recurrence. This is a rise in the blood level of prostate-specific antigen (PSA) in men who have been treated with surgery or radiation for prostate cancer. PSA is a protein produced by the prostate gland. Rising levels of PSA in the blood after treatment almost always means that the prostate cancer has returned (recurred).



For men whose PSA levels doubled rapidly (in less than six months), hormonal therapy was an effective way to help them survive longer. However, for men whose PSA levels

doubled more slowly (in more than six months), there was no benefit to hormonal therapy.

PREDICTING OUTCOMES IN METASTATIC PROSTATE CANCER

Identifying certain risk factors may help doctors pick the treatment with the best chance of success for a given person.

If doctors could predict which men with metastatic prostate cancer would benefit most to a given treatment, they may be better able to treat these people. Based on the results of a recent analysis, four simple risk factors may suggest which men with metastatic prostate cancer are likely to benefit from a particular treatment.

More than 1,000 men with metastatic prostate cancer were included in this study. All of the men had tumors that no longer responded to hormonal therapy. These men were treated with one of two chemotherapy drugs: docetaxel (Taxotere) or mitoxantrone (Novantrone and others). Doctors commonly prescribe chemotherapy once hormonal therapy stops working.

Researchers found that men who had one or none of the following risk factors responded better to treatment with docetaxel or mitoxantrone and lived longer than did men who had more risk factors:

- Pain
- Anemia (an abnormally low level of red blood cells that can lead to extreme fatigue and shortness of breath)
- Cancer that has spread to the bone
- Cancer that has spread to the outer layers of other organs in the body

These early results have to be confirmed in future studies. If they are confirmed, doctors may be able to use this

information to select the right treatment for each patient. For instance, more aggressive chemotherapy drugs could be selected for men with metastatic prostate cancer who had more risk factors.

ABIRATERONE ACETATE FOR RESISTANT PROSTATE CANCER

The drug abiraterone acetate may improve the lives of men with aggressive prostate cancer.

There are fewer treatment options for men who have metastatic prostate cancer that does not respond or no longer responds to standard medications, including chemotherapy. However, according to the results of three recent clinical trials, abiraterone acetate seems a promising option.

Abiraterone acetate works by blocking the male hormones that help prostate cancer continue to grow after standard hormonal treatments are no longer effective.

A total of more than 125 men with advanced or metastatic prostate



cancer took part in the three clinical trials. Some of the patients had been treated with hormonal therapy and the chemotherapy drug docetaxel, but these medications were no longer effective. Others had not been treated before with chemotherapy for their advanced prostate cancer.

In all three clinical trials, abiraterone acetate led to reduced PSA levels in many of the men. The new drug was able to shrink the tumor by at least 50 percent in nearly one-fifth

of the men treated. In one of the clinical trials, the tumor neither grew nor shrank in more than 65 percent of the patients.

Finally, in all three clinical trials, treatment with abiraterone acetate improved the quality of life for the participants. They were better able to perform ordinary tasks and daily activities.

Further studies with this drug are being performed. Although it is only being used in clinical trials at this time, researchers hope that in a few years, abiraterone acetate may be more widely available.

Please note: *Although the treatments discussed in this chapter are showing promise, most are still in clinical trials—some in earlier phases of research—and may not be available yet to the general public. Your doctor can help guide you as to which new medications could be right for you and whether you are eligible to take part in the clinical trials of these new treatments.*