4 Treatment Options for Prostate Cancer

by KRYSTINA OSTERMEYER

Treatment of Prostate Cancer

Prostate cancer is the most common cancer among men, aside from skin cancer. An estimated 175,000 men are diagnosed with prostate cancer annually, with about 60% of these cases being in men over the age of 65.

Most prostate cancers (upwards of 90%) are confined to the prostate or nearby organs and are therefore termed local or regional. This means that prostate cancer has a high survival rate. In fact, the five-year survival rate for regional prostate cancer is almost 100%. If the prostate cancer has spread to other areas prior to diagnosis, the five-year survival rate is much less — approximately 30%. This is why early detection and knowing the signs and symptoms of prostate cancer is so important.

Although prostate cancer is the second leading cause of cancer death among men in the U.S., this number continues to drop. In fact, there are approximately 3 million living prostate cancer survivors in the U.S.

1. Chemotherapy

Chemotherapy involves the use of an anti-cancer medication. These medications are given by injecting the drug directly into a vein or are prescribed as an oral medication.

When chemotherapy is used for prostate cancer, the cancer has typically spread outside of the prostate gland and other treatment options, such as hormone therapy, are not working. According to the American Cancer Society, research also indicates that chemotherapy may be effective when used concurrently with hormone therapy. Chemotherapy treatment is not typically used for early stage prostate cancers.

The most common chemotherapy agent used to treat prostate cancer is docetaxel (Taxotere) given with prednisone. Other chemotherapy agents include:

- Cabazitaxel (Jevtana).
- Mitoxantrone (Novantrone).
- Estramustine (Emcyt).

2. Radiation

Radiation treatment involves the use of high-energy rays; these rays kill cancer cells.

Radiation is used during various stages of prostate cancer:

- It may be used as a first treatment for prostate cancer that is low-grade and is confined to the prostate gland. It is thought to have similar cure rates to a radical prostatectomy.
- If prostate cancer has spread outside of the prostate gland, radiation may be used as a first-line treatment

along with hormone therapy.
- If prostate cancer recurs or it is not able to be fully removed with a prostatectomy, radiation may be used to kill the cancer cells.
- If prostate cancer is advanced, radiation is used to control the cancer cells from multiplying as long as possible. This also helps to prevent and improve symptoms.

There are two types of radiation treatment that may be used:

- **External beam radiation therapy (EBRT).** This uses radiation outside of the body. This radiation is focused directly on the prostate gland. It can be curative in earlier stages of prostate cancer and is helpful in reducing symptoms in later stages of prostate cancer. This type of radiation requires daily treatments for several weeks.
- **Brachytherapy.** This form of internal radiation therapy is also called seed implantation and interstitial radiation therapy. This type of radiation involves implanting tiny radioactive seeds into the prostate gland. It is used in low-grade, early-stage prostate cancers, as well as concurrently with external radiation in prostate cancers that are growing outside of the prostate gland.

3. IMRT for Prostate Cancer

Intensity-modulated radiation therapy (IMRT) is actually a type of external beam radiotherapy (EBRT); this type of radiation is undoubtedly the most common type of radiation used to treat prostate cancer.

IMRT is a type of three-dimensional conformal radiation therapy (3D-CRT), which uses computers to map the location of the prostate cancer, allowing for radiation to be administered precisely.

IMRT for prostate cancer is an advanced form of 3D-CRT; it is computer-driven, and it moves around the patient while the radiation is being delivered. According to the American Cancer Society, "Along with shaping the beams and aiming them at the prostate from several angles, the intensity (strength) of the beams can be adjusted to limit the doses of radiation reaching nearby normal tissues. This lets doctors deliver an even higher radiation dose to the cancer".

4. Advanced Cancer Treatments

Advanced prostate cancer is typically difficult to cure. Treatment is aimed at slowing the progression of the cancer and extending life.

Typically, advanced cancer is treated with hormone therapy. Hormone therapy is selected, according to Mayo Clinic, because it helps to "…stop your body from producing the male hormone testosterone or to block the effects of testosterone on the cancer. Prostate cancer cells rely on testosterone to help them grow. Cutting off the supply of hormones may cause the cancer to shrink or to slow its growth."

These medications are typically used alone, but they can be used with chemotherapy and radiation.

Examples of hormone therapy include:

- **Luteinizing hormone-releasing hormone (LH-RH) agonists and antagonists.** They help to prevent the testicles from making testosterone. These medications include leuprolide (Eligard, Lupron Depot), goserelin (Zoladex), triptorelin (Trelstar), histrelin (Vantas) and degarelix (Firmagon).
- **Anti-androgens.** They prevent testosterone from reaching the cancer cells. These medications include bicalutamide (Casodex), flutamide and nilutamide (Nilandron).
- **Steroids.** The female hormone estrogen, the antifungal medication ketoconazole and abiraterone (Yonsa, Zytiga) all help to control testosterone levels in the body.