Living with Prostate Cancer

Chemotherapy in Prostate Cancer: A Guide for Patients
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Chemotherapy In Prostate Cancer: A Guide For Patients

The primary purpose of this guide is to explain the stage of prostate cancer you have come through. It also discusses general measures to help you learn about strategies to improve your own well-being at this time in your life.

How Do We Define Metastatic Hormone-Refractory Prostate Cancer?

The use of hormone therapy in patients diagnosed with prostate cancer has lead to delays in cancer recurrence and improvements of survival. For patients with metastatic (cancer that has spread to other parts of the body) prostate cancer, hormonal therapy, even though not curative, can typically lead to long-term remission and allow for an excellent quality of life. However, with time, prostate cancer may progress despite the use of hormonal therapy. We do not know why this happens but it leads to a state called hormone-resistant prostate cancer. The cancerous prostate cells mutate and start growing on their own, despite the lack of hormones (testosterone) to stimulate them. When the disease reaches this stage, no "standard" therapy has been shown to be effective for cure but, because this is an area where research is making a lot of progress, there is renewed optimism.

In the past few years, several important new treatment options have sprung up that are aiming to find new ways of tackling the problem. Here is a brief overview of these new therapies, what they propose to accomplish, and the emerging options.
How Do We Detect Recurrence?

The arrival of a reliable blood test for prostate-specific antigen (PSA) in the early 1990s handed doctors an extremely sensitive tool with which to follow patients being treated for prostate cancer. Prostate-specific antigen is a glycoprotein that is produced exclusively by the prostate and its level in the blood can mirror problems in the prostate gland. Prostate-specific antigen is produced by both normal and cancerous prostate tissue, no matter where it is found in the body. In a way, PSA testing is both a gift and a burden. It is a gift in cases where PSA rises after treatment: we now have a very early indicator that the patient may be developing a recurrence of his disease. This is extremely beneficial in some cases because it allows for early additive therapy, such as radiotherapy (i.e., following radical prostatectomy) or hormonal therapy (i.e., after radiotherapy). However, it may be a burden in other cases when it is not clear exactly what form of therapy, if any, should be used. Indeed PSA watching can become a source of considerable anxiety to many patients who are considering next steps.

What Are the Options?

In men with metastases and where hormone resistance has occurred, a physician's first objective is to ensure the best quality of life possible. Decisions on treatment choices are taken after weighing several factors, for example, general state of health (Are there any other medical problems?), symptoms (like bone pain), and where in the body the cancer has spread. Hormone resistance may make its presence known by simply showing a rising PSA while on otherwise adequate hormonal therapy. At the other end of the spectrum, patients may experience pain caused by bone metastases. Obviously, treatment may be very different for different people.
Hormone Therapy

If the patient is still taking anti-androgens, there is a danger the cancer cells will mutate and be stimulated by anti-androgen drugs, such as Casodex® or Euflex®. So the doctor’s first step may be to stop or change the prescription. Between 15% and 30% of men will experience a temporary benefit in seeing a drop in PSA levels when they stop taking these anti-androgens.

When this happens, it is called "anti-androgen withdrawal syndrome." Whether substituting a new anti-androgen is useful at this point in time is still unclear. Usually, no further treatment will be required until the PSA again begins to rise. It may be important, however, that the luteinizing hormone-releasing hormone (LHRH) therapy (for example, Zoladex®, Lupron®, Suprefact® Depot or Eligard®) be continued to keep the portion of the prostate cancer that is still hormone sensitive under control.

Pain Relief

In patients with pain, relief is the number one priority. Medications, from the basics, such as acetaminophen, or an anti-inflammatory to strong narcotics, are used according to the severity of the pain. Radiation therapy destroys metastatic cells in painful areas (the spine, hips, and back, for example). This does not change the course of the disease, but can provide quick comfort and reinforce the bone, thereby reducing the risk of fracture in this area.
What Are the New Therapies Available?

**Bisphosphonates**

Bisphosphonates (a class of drug that helps rebuild and strengthen bone) may be useful in helping to reduce pain in patients with bone metastases. The results of an international study using a third-generation bisphosphonate, zoledronic acid (a very potent form of medication used for osteoporosis), were the first to show efficacy in men with prostate cancer. Zoledronic acid was shown to effectively reduce the risk of complications such as fractures and the need for radiotherapy in patients with bone metastases. Treatment is given in the clinic intravenously every 3-4 weeks. This was one of the first steps in the right direction in our struggle in the fight against metastatic prostate cancer that has become refractory to hormone therapy. Studies looking at the potential of zoledronic acid, and other such drugs, to prevent the appearance of metastases are ongoing.

**Chemotherapy**

Most of the research in patients with advanced prostate cancer has been concentrated on promising chemotherapy. In 1994, a Canadian group was the first to show that, combined with steroids, a chemotherapeutic agent called mitoxantrone allowed a significant number of patients to improve their quality of life by reducing their pain and their need for pain-killing drugs. This is a concept that is hard to believe for some patients: that using chemotherapy actually makes them feel better! This therapy is given on an outpatient basis every 3 weeks and, despite some side effects, helps patients' pain levels and allows them to feel much better overall. In 2004, the results from clinical trials using more effective chemotherapy known as docetaxel (Taxotere® is the trade name) were published. Two large international studies were published in the New England Journal of Medicine and showed, for the first time, that we are capable of prolonging the lives of men affected by hormone-refractory prostate cancer, and at the same time improving quality of life. One of these published reports came from a study carried out at the Princess Margaret Hospital in Toronto, where the original research using mitoxantrone and
steroids had been carried out. Their summary concludes that, when given with the steroid prednisone, treatment with docetaxel (Taxotere®) every 3 weeks led to improvements in survival and PSA response, as well as in measurable pain relief and quality of life. The introduction of Taxotere® is a milestone in prostate cancer treatment. It is currently approved in the treatment of metastatic hormone-refractory prostate cancer.

Taxotere® In Prostate Cancer

Taxotere® is a chemotherapy agent that has been effectively used to treat many types of cancer and has recently been approved to treat metastatic hormone-refractory prostate cancer. Now we can discuss some of the specific issues in this new treatment option.

It is typically administered once every 3 weeks. Your doctor may prescribe a steroid for you to start taking the day before your treatment. Take this steroid with food or milk, as it can cause stomach upset. Remind your doctor if you are diabetic so that your dose of steroids can be adjusted. On the day of your chemotherapy, eat normal meals. You will have your blood tested before each chemotherapy treatment to ensure that your blood counts are high enough to safely receive chemotherapy. You will be seated in a comfortable chair and a nurse will insert an intravenous catheter into a vein. The chemotherapy will be infused into your bloodstream using
this catheter. You will be monitored closely for the first few minutes of the first infusion. The infusion usually takes less than an hour. After the infusion you may feel tired, but most patients tolerate the treatment quite well. After a few cycles of treatment you may feel a great sense of relief, especially if you have symptoms related to your disease. Most new events in our lives are never as bad as we imagine them to be.

**Side Effects**

We will now discuss these in turn. You will find that most of these side effects are manageable. There are management tips listed with each side effect.

**Hairloss**

Seventy-six percent of patients who receive Taxotere® will experience hair loss. This will begin with a thinning of your hair 10-14 days after your chemotherapy treatment and will progress to total loss of scalp hair. You may want to prepare yourself by purchasing a hat. Hair will re-grow after the completion of your last treatment.

**Rash**

A rash may develop on your hands and feet, arms, face, and chest. This will occur within the first week after your Taxotere® infusion and will have resolved before the next treatment is due. If this rash is itchy, you may want to try over-the-counter anti-itch lotions. If the itch becomes troublesome, let your doctor or nurse know, since there is effective treatment to help prevent this problem.

**Nail Changes**

Your nails may darken. Let your doctor or nurse know if this bothers you. Keep your hands and feet well moisturized by applying lotion 2-3 times daily. Use caution when trimming your nails.
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Low White Blood Cells
Your white blood cells will be lowest 7-10 days after your chemotherapy. You are at greater risk of developing or catching an infection at this time. Frequent hand washing is important. If you start to feel unwell (chills, cough, or burning when you pass urine), check your temperature. If your temperature is over 100°F or 38°C by an oral thermometer, you should go to your local emergency department as this may be an indication that you have an infection and will require antibiotics.

Sore Mouths
This occurs when your blood counts are low and can lead to an infection. Brush your teeth gently after eating and at bedtime with a very soft toothbrush. Avoid commercial mouthwashes containing alcohol (alcohol dries your mouth and can be irritating if your mouth is already sore). Make a mouthwash using 1 teaspoon of baking soda or salt in 1 cup of warm water and rinse several times a day. Eat soft bland foods such as puddings, milkshakes, and cream soups. Avoid spicy, crunchy, or acidic food and very hot or cold foods. If you are due to have dental work done, arrange to complete it before your treatment begins or after completion of chemotherapy.
Nutrition

The old adage "we are what we eat" has great implications as we enjoy a healthy lifestyle. The importance of a good, balanced diet cannot be overemphasized. For many years, the Canadian Cancer Society has advocated good nutrition as one of the seven steps to health. Eating well helps to enhance general feelings of well-being. It contributes to staying healthy, especially during treatment for prostate cancer. Research suggests that diet may be associated with the development of many cancers. Fats from animal sources are often implicated.

Canada's Food Guide to Healthy Eating recommends eating a variety of different food types. While eating 5-10 servings of fruits and vegetables a day may reduce the risk of cancer, heart disease, and strokes, fruits and vegetables also contain vitamins, minerals, and other nutrients that appear to promote health. One serving is 1 cup of vegetables or fruit, one whole fruit, such as an apple, or 4 ounces of fruit juice. Interestingly, foods of colour (orange, red, and green) contain more nutrients than less colourful ones.

Foods that contain fibre help control hunger by making you feel full. They enhance digestive functioning, which is particularly helpful if your treatment or pain medication tends to cause constipation. Other benefits of high fibre foods include control of cholesterol and blood sugar. Fruits and vegetables contain fibre but it is important to include high fibre cereals (such as oatmeal or bran flakes), whole wheat breads, and other grain products such as brown rice or whole-wheat pasta.

Another goal of a healthy lifestyle is to decrease the intake of animal fats. Fried foods, hard cheeses, regular beef, pork, and lamb, ice cream, chocolate, sweets, and nuts are foods that are high in fat. Flavour additives such as butter, sour cream, tartar sauce, mayonnaise, and some salad dressings are high in animal fats. Reducing fat intake can be done gradually. Some painless ways of achieving this are choosing 1% or skim milk, smaller portions of high fat foods, baking as opposed to frying foods, removing skin from poultry before cooking, incorporating a vegetarian meal in your weekly meal plan, choosing fruit for dessert, and saving those high fat desserts for special occasions.
Limit your consumption of alcohol. A male should limit his intake of alcohol to two drinks per day. Drinking small amounts of alcohol does not appear to affect the safety or usefulness of Taxotere®. If your treatment has caused a decrease in your appetite, a drink of alcohol 1 hour before your evening meal may be helpful in stimulating your appetite. Check with your doctor to ensure that alcohol does not interact with other medications that you are taking.

If you are on a special diet to control diabetes or other medical conditions, it is important that you follow that diet as closely as you can. This will enable your body to function at its best. Lack of appetite can be overcome by eating small, frequent meals. High protein drinks, such as Ensure® or Boost®, may be helpful in assisting you to maintain your weight. If you are at all unsure about your food intake, ask your nurse or doctor for a referral to a dietician to assist you in achieving a healthy food intake.

**Taking Time**

To enjoy a healthy lifestyle you must take time for yourself, reflect, and heal. During your cancer journey, many new emotions and feelings arise. It is important to take time and deal with your emotions and feelings. It is important to verbalize how you are feeling. You may be comfortable talking with your partner, family, or a close friend. By expressing how you feel you are enabling others to provide you support. If you feel uncomfortable expressing yourself to your circle of family or friends, a support group or professional, such as a social worker or psychologist, could be of benefit. You can ask your nurse or doctor for help in connecting.
with someone in your area. The Canadian Cancer Society may be helpful in connecting you with a support group or a "buddy" in circumstances similar to yours. It is important to find the right support group, one where you feel comfortable and are able to express your feelings.

You may have questions or concerns about your future. Do not be afraid to ask questions to your doctor, nurse, or other members of your health care team. Organize your thoughts and make a list of your questions. Knowledge can be very empowering. If you have fears about your future, a talk with your spiritual leader may be helpful. Be honest with yourself and those who are trying to assist you.

If you are unable to resolve your feelings you may become depressed. It is sometimes difficult to decide if your feelings of sadness are related to fatigue and side effects of your treatment or if you are truly depressed. Feelings that you can no longer cope with, inability to sleep or sleeping too much, inability to concentrate or remember things, feelings of hopelessness or helplessness, panic attacks, lack of pleasure or interest in things that you once enjoyed may indicate that you are depressed. Medication and professional help can help you overcome these feelings. Taking on new hobbies and learning new skills can improve how you feel about yourself. Try to take time every day to do something for you, for example, listening to your favourite music or talking to a friend whose company you enjoy.

**Exercise**

Physical exercise improves bodily self-image and feelings of wellbeing. It improves your mental, emotional, and physical health. If your daily routine included regular exercise before your diagnosis, you are already ahead of the game and have reaped the benefit of regular workouts. The side effects of your treatment may limit the amount of exercise you can participate in. It is important that you do something you enjoy. If you have never exercised, just a small increase in your activity will improve how you feel. A short walk 2-3 times per week will help you to sleep better, improve your appetite, and improve your general feeling of wellbeing. If walking is difficult for you, you may want to increase your activity by doing gentle arm and shoulder raises using small cans of soup as weights. Small increases in your daily activity contribute to your enjoyment of a healthy lifestyle! Good eating habits and regular exercise enable you to maintain a healthy weight and general feeling of wellbeing.
With active research ongoing worldwide, there is definitely a lot to be optimistic about for men and their families affected by prostate cancer.

Ongoing Research And The Future

Another avenue of research seeks agents to prevent the appearance of bone metastasis in patients who have a rising PSA while on hormone therapy. These agents are being tested to find if they have a role to play in the treatment of patients with cancers that have become hormone-refractory. New agents that act directly on the genes involved in cancer are another novel approach being explored in present day research and are no longer something far away in the future. For now, only patients that accept participation in research studies can have access to these new types of therapies until they are proven to be beneficial and they become commercially available.

Men now have new options to consider when faced with the realization that hormonal therapy is no longer enough to control prostate cancer. Intense research is ongoing to continue to improve the results of our treatment options. While survival remains a very important objective, quality of life remains the number one priority in treating patients with metastatic hormone-refractory prostate cancer. Men who are healthy, active, and willing to face the challenge of new, potentially helpful forms of therapy should be encouraged to participate in research protocols available now in major centres throughout Canada. (It is best to ask your urologist, radio-oncologist, or medical oncologist if they feel you could benefit.)

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**Prostate Cancer Terminology**

**Androgens:** (see Testosterone)

**Carcinoma:** A Latin term meaning any cancer that has derived from lining or epithelial cells of any organ in the body. Prostate cancer may also be referred to as prostate carcinoma.

**Chemotherapy:** Classes of anti-cancer drugs that can cause cancer cell destruction by means that do not involve the hormone pathway.

**Clinical trial:** (see Trial, below)

**Disease-free survival:** Living without evidence of cancer in the body.

**Hormonal therapy:** A treatment designed to alter the hormone levels or to block the effects of normally circulating hormones (testosterone) upon cancer cells. In prostate cancer, this can take the form of needles (see LHRH below), or tablets, or both, and the aim is to block normally circulating testosterone (an androgen), which is known to stimulate the growth of prostate cancer in its earlier development. Removing the testicles (the source of testosterone) is another way of initiating hormonal therapy.

**Hormone-dependent:** Cancer cells that respond to hormones and that are said to be dependent on hormones. These cancers may be treated with hormonal therapies.

**LHRH:** These drugs are given by infrequent injections to block the pituitary hormone that ordinarily causes a rise in blood testosterone, a hormone that can "feed" prostate cancer cells (see also Hormonal therapy, above).

**Lymph nodes (or Nodes):** A number of small structures surrounding the breast (especially the axilla) and that filter the tissue fluid that normally leaves the breast, and that can trap cancer cells leaving the breast. Analysis of these nodes is an essential component of staging a cancer.

**Metastatic:** A cancer is metastatic when it has spread beyond its organ of origin.
**PSA:** A substance known chemically as a glycoprotein that is specifically produced by the prostate and that is typically elevated in the blood in prostate cancer (as well as in some other prostate conditions). It is an important "tumour marker" and its changing level in the blood can indicate the result of a given treatment.

**Radiotherapy:** Used to control growth of a cancer or used to help relieve symptoms caused by the cancer. It is very effective in controlling the pain due to cancer deposits in bones, for example.

**Testosterone:** The androgen hormone produced by the testicles that can stimulate the growth of prostate cancer cells, particularly in the early development of the disease.

**Trial (Clinical Trial):** This is an attempt to answer a question, usually about treatment choices, by following very carefully a group of patients typically divided into two groups, one of which receives a new treatment and the other a standard treatment.
You are not alone

Prostate cancer is the most frequently diagnosed cancer and the second leading cause of cancer deaths in men. One in seven Canadian men will be diagnosed with prostate cancer in their lifetime, and one quarter of those diagnosed with the disease will die of it.

If prostate cancer has touched your life, or the life of a spouse or friend, it’s important that you know that you are not alone. More than 120 support groups across the country meet regularly and their 18,000 survivor/members can give you advice, encouragement and the knowledge that only comes from those who have gone through it.

For information or to find a group near you visit our website.

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