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# AFTER DIAGNOSIS: PROSTATE CANCER

## Understanding Your Treatment Options

### **INTRODUCTION**

This booklet describes how prostate cancer develops, how it affects the body and the current treatment methods. Although this booklet can answer most of your questions about prostate cancer, there may still be some questions that are best answered by your doctor. Please discuss these questions with your doctor. This booklet may contain some medical terms that are unfamiliar to you, refer to the glossary at the end for a more detailed explanation.

### **WHAT IS CANCER?**

Cancer is a group of diseases characterized by uncontrolled growth of abnormal cells.

The human body is made up of millions of cells, which divide, grow and repair themselves when damaged. Sometimes these cells may grow into masses of tissues called tumors. Tumors can be benign (non-cancerous) or malignant (cancerous).

Benign tumors may affect the body's function but is seldom life threatening. Malignant tumors can invade and destroy nearby healthy tissues. They can also metastasize or spread to other parts of the body by way of the circulatory and lymphatic systems to form new cancers. Sometimes cancer develops and spreads very quickly, other times very slowly.

With advancing age, the chance of developing cancer increases. Prostate cancer is no exception.

### **WHAT IS THE PROSTATE?**

The prostate is a gland found in men, about the size of a walnut. It is located just below the bladder and wraps around the urethra, a tube that carries urine out of the bladder.

The main function of the prostate is to produce a fluid, which is part of the semen that nourishes the sperm cells.

### **FACTS ON PROSTATE CANCER**

According to the American Cancer Society, there are over 100 types of cancers. In the United States, prostate cancer is the second leading cause of cancer deaths among men with over 200,000 new cases per year. The rate of prostate cancer increases with age, especially in males over the age of 50. The American Cancer Society recommends that a digital rectal exam (DRE) and a prostate-specific antigen (PSA) blood test be part of the annual physical exam. This will enable early detection of prostate cancer and early treatment. Unlike many other cancers, prostate cancer often grows very slowly.

## **PROSTATE CANCER AND BENIGN PROSTATIC HYPERPLASIA (BPH)**

The symptoms of prostate cancer and benign prostatic hyperplasia (BPH) are similar and often occur in aging men. Frequent urination or blood in the urine are sometimes shared by both conditions. This is due to an enlarged prostate causing an obstruction. BPH is a result of the overgrowth of prostate tissues and is not cancer. The only way to tell the difference between prostate cancer and BPH is from a diagnosis by a doctor.

### **WHAT CAUSES PROSTATE CANCER?**

The cause of prostate cancer is unknown at this time, but is closely associated with the following:

- Age - the older you are, the greater the risk.
- Male hormones promote the growth and spread of cancer cells.
- Excessive intake of red meat and high fat dairy products (cheese, whole milk) may promote the growth of cancer cells.
- Race -Caucasians and Blacks have a higher rate than Asians.

### **WHAT ARE THE SYMPTOMS OF PROSTATE CANCER?**

In the beginning, prostate cancer may not have any symptoms. When the cancer grows, the tumor becomes larger and presses against nearby organs such as the urethra, colon, interfering with the flow of urine. During this time, many men will experience increased frequency in urination, difficult and painful urination or blood in the urine. Later on, the cancer may spread to nearby lymph nodes, bones or other organs. When the cancer metastasizes to the bones or hip, pain, weakness and loss of appetite occur.

### **WHAT CAUSES PROSTATE CANCER TO SPREAD?**

The proper growth and function of the prostate are dependent on the male hormones, which are produced mainly in the testicles and also in the adrenal glands. Male hormones stimulate the growth of cancer cells, like fuel on fire. As long as the body produces male hormones, prostate cancer cells will have a chance to grow and spread.

### **HOW IS PROSTATE CANCER DIAGNOSED?**

There are many ways to diagnose prostate cancer; the most common methods are:

#### **1. Digital rectal exam (DRE)**

During the examination, the doctor inserts a gloved, lubricated finger into the patient's rectum to determine if the prostate feels irregular or abnormally firm. This procedure takes less than a minute and causes minimal discomfort.

#### **2. Prostate specific antigen (PSA) level**

PSA is produced by both normal and cancer cells in the prostate gland. In the early stage of prostate cancer, PSA level usually rises. The blood level of PSA can also reflect the stage of the cancer. Most men have PSA levels

under 4 ng/ml. A high number or rapid increase in PSA readings requires further tests. Once prostate cancer is diagnosed, the PSA can also be used to follow the progress of the cancer.

### **3. Transrectal ultrasound (TRUS) and Biopsy**

During this procedure, the doctor places a small probe into the patient's rectum to release sound waves so that an image of the prostate can be created on a video screen. If prostate cancer is suspected, the doctor can remove small pieces of prostate tissue through a thin needle for examination under the microscope. A biopsy is the most reliable method for the diagnosis of prostate cancer.

If the result of the biopsy is positive, meaning cancer is found, the pathologist will grade the cancer according to how closely the cancer cells resemble normal cells. The most commonly used prostate cancer grading system is called the Gleason score, which ranges from 2 to 10. The higher the score, the faster the cancer is likely to grow and spread.

### **PROSTATE CANCER STAGING**

Staging indicates how widespread the cancer is. Results from the digital rectal exam, PSA level, Gleason score and other tests (if any) are used as part of the staging process. The most commonly used staging system in the U.S. is called the TNM System. It describes the extent of the primary tumor and whether the cancer has spread to nearby lymph nodes, or other distant organs or bones. The TNM stages for prostate cancer are I (1), II (2), III (3) and IV (4). The lower the number, the less the cancer has spread.

### **PROSTATE CANCER TREATMENT OPTIONS**

Depending on the stage of the cancer, the age and health condition of the patient, treatment options may vary. When choosing between these options, the doctor and patient must discuss the benefits and risks of each treatment. The following is a description of the four stages of prostate cancer and their treatment options:

#### **Stage I (1)**

The cancer is contained within the prostate, but because of its small size, the tumor cannot be felt during a digital rectal exam. Other tests can be used for diagnosis. The cancer is found accidentally during an operation to relieve symptoms of urinary problems. Stage I prostate cancer often has no symptoms, and the cancer is regarded as "curable". Treatment options include radical prostatectomy, radiation therapy, or watchful waiting.

#### **Radical Prostatectomy**

This operation removes the entire prostate gland and nearby lymph nodes to prevent the spread of early prostate cancer. There are two main types of radical prostatectomy: radical perineal prostatectomy (incision is made in the skin

between the anus and scrotum) and retropubic prostatectomy (incision is made in the lower abdomen). Side effects include impotence (not being able to have or maintain an erection) and incontinence (loss of bladder control). Advances in surgical techniques have greatly reduced the risks of both.

### **Radiation Therapy**

In this treatment, high-energy rays (such as x-rays) or particles (such as electrons or protons) are used to destroy cancer cells. There are two main types of radiation therapy: external beam radiation and internal radiation. External beam radiation involves the use of radiation beams from a source outside the body. Internal radiation involves the use of small radioactive seeds placed directly into the prostate. The risks of impotence and incontinence associated with radical prostatectomy can be avoided with radiation therapy. Side effects include fatigue, skin reactions on the radiation site, frequent or painful urination, upset stomach, diarrhea, and rectal irritation or bleeding. Once radiation therapy is discontinued, most side effects will disappear. The outcome of radiation therapy is considered to be as effective as surgery.

### **Watchful Waiting**

The cancer is closely monitored and observed with no immediate treatment. This approach is recommended for older men since prostate cancer generally grows very slowly. Treatment begins only when the cancer starts to grow larger.

### **Stage II (2)**

The cancer is contained within the prostate and can be felt during a digital rectal exam. Stage II prostate cancer often has no symptoms and has a high cure rate. Treatment options include radical prostatectomy and radiation therapy (see previous section).

### **Stage III (3)**

The cancer has spread outside the prostate to nearby areas. At this stage, the usual symptom is difficult or painful urination. The success rate of treatment with radical prostatectomy or radiation therapy is quite low. The use of hormone therapy in combination with radiation therapy have produced good results and reduced the rate of recurrence.

### **Hormone Therapy**

This form of treatment aims to reduce the production of the male hormones in the testicles. Male hormones can cause the spread of cancer cells. Hormone therapy does not cure prostate cancer, but it can slow the growth of the cancer, shrink the tumor size and reduce the symptoms. The following are methods used to reduce the production of the male hormones:

#### **A. Surgical removal of the testicles**

The surgical removal of the testicles is known as orchiectomy. The operation is done under local anesthesia and on an outpatient basis. The

procedure takes about 30 mins. Removal of the testicles effectively reduces the production of the male hormones and relieves related symptoms. General side effects include impotence and hot flashes.

**B. Luteinizing hormone-releasing hormone (LHRH) injections**

These man-made hormones prevent the production of the male hormones in the testicles. The injections are given monthly or every 3, 4 or 12 months, usually at the doctor's office. Self-injection can be an option. This treatment method effectively eliminates the symptoms associated with prostate cancer. Common side effects include hot flashes and impotence. Some men may experience increased urinary symptoms or pain during the first few weeks of treatment.

**C. Combination hormone therapy**

Daily oral medication to block the production of the small amount of male hormones by the adrenal glands is combined with a daily LHRH injection to prevent the production of male hormones in the testicles. Common side effects include hot flashes, vomiting, diarrhea and impotence. Due to the long-term use of hormones, the medical cost can be very high.

**D. Female hormone (Estrogen) therapy**

Daily intake of estrogen pills, between one to three times, can block the body's ability to use male hormones. Common side effects include edema, breast enlargement, weakness, upset stomach and vomiting. Estrogen therapy can lead to or intensify circulatory diseases such as blood clots and stroke.

**Stage IV (4)**

The cancer has spread to other parts of the body, such as bones and lymph nodes. At this stage, symptoms include difficult urination, bone pain, weight loss and fatigue. During this late stage of prostate cancer, usual treatments are radical prostatectomy, radiation therapy and hormone therapy (see previous sections). Chemotherapy may also be used after all other combined therapies. The goal of treatment is to relieve pain and suffering, urinary problems and other symptoms.

**Chemotherapy**

Chemotherapy involves the use of anti-cancer drugs, which are carried by the bloodstream throughout the body, to destroy rapidly growing cells, including both normal and cancer cells. To minimize damage to healthy cells, the dosage and frequency of administration of these drugs have to be carefully monitored. There are many types of chemotherapy drugs, and they are often used in combination. These drugs help to reduce the symptoms of advanced prostate cancer. Common side effects include nausea, vomiting, diarrhea, weakness, and decrease in white blood cells.

## **WHO TREATS PROSTATE CANCER?**

Your primary care doctor will refer you to see a urologist when you have prostate problems. A urologist is a doctor who specializes in treating problems of the urinary tract and reproductive organs. A urologist will determine if the symptoms are due to prostate cancer or an enlarged prostate. Some patients may be referred to an oncologist who specializes in the treatment of cancer, usually with radiation or chemotherapy. The patient must thoroughly discuss the treatment plan with the doctor so that both parties are in agreement with the procedures.

## **COPING WITH PROSTATE CANCER**

When a man finds out that he has prostate cancer, he may feel upset, anxious and lost. These reactions are normal. The patient's family and friends often share these feelings.

One of the best ways to deal with these emotions is to discuss them openly with other prostate cancer patients and their families who have gone through similar experiences.

This provides an opportunity for mutual support and encouragement. Talk to your doctor about joining a support group in your area or finding a prostate cancer patient who is willing to share his experience with you. The biggest mistake a family can make is not telling the patient honestly about his condition, thinking that the news might shock him. This only adds to the patient's fear.

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