Hormone Deprivation Therapy is a non-curative management option designed for those individuals who may consider themselves too old or too ill for aggressive curative therapies. In many cases, prostate cancer is so slow growing, that it may take years before it even begins to cause problems. As an extreme example, an 85 year old man with prostate cancer may have other medical issues and only expect to live a few years related to those other problems. His prostate cancer may not ever get to a life threatening stage in his expected lifetime. Treatments for a cancer that would otherwise threaten him could be more dangerous than the cancer itself in effect making "the cure more dangerous than the problem itself." As such, some patients elect to monitor the cancer because it is inactive.

In these cases of watchful waiting, a surveillance plan is developed and the PSA is monitored. If symptoms arise or if the PSA gets too high (suggesting imminent problems), then hormone deprivation therapy is begun. Otherwise, no treatments may be needed.

Complications

All treatments for prostate cancer can have side effects or complications. With any type of surgery, there can be bleeding or infection. Traditionally, radical surgery had the highest risk of bleeding, with blood transfusions being commonly required during surgery. Today's refined surgical techniques and robotic operations have made the most cases not needed a blood less worse surgery.

Radiation therapy, either external beam or seed therapy, can cause radiation to burn the bladder or rectum which sometimes can bleed. Cryotherapy, while not surgically removing the prostate gland, will cause destruction of the gland which can cause temporary bleeding. Any manipulation of the urinary tract can cause infection. Usually, antibiotics are prescribed following prostate treatment, and the risk of merely observing untreated is low with all of these methods.

Because the prostate is situated very near the rectum, injury to the rectum is possible. Whether it be surgery, radiation, or cryotherapy, if the rectum is injured, and abnormal connections to the urinary tract (called a fistula) can develop. If this develops, further surgery to correct the fistula will be required. Sometimes a colostomy (making the bowels empty onto the skin) is required to treat a fistula. Less than 3% of people undergoing prostate cancer treatment will develop a fistula.

Endocrine Dysfunction and Incontinence are usually the major concerns for patients faced with treating prostate cancer. All treatment options can affect sexual function and urinary control. For patients without cancer, the hope is to maintain sexual function and urinary control. In many cases of prostate cancer, it is true that most men who have prostate cancer do not die from it.

The American Cancer Society estimated 192,000 new cases of prostate cancer were diagnosed in 2009 and more than 27,000 men died from the disease. The good news is that most cancers are diagnosed while still confined to the prostate gland (localized or confined). Cancer found at this early stage usually has a high cure rate. According to the most recent data, for all men with prostate cancer, the relative 5 year survival is nearly 100%, the relative 10 year survival is 91%, and the relative 15 year survival exceeds 76%.

Screening and Detection

As with many cancers, the most important aspect of prostate cancer is early detection. If the cancer is caught early, before it can spread, these rates are excellent. Early detection is accomplished by regular screening; a digital exam and a blood test called PSA. Both of these tests need to be done every year after age 40. African Americans and patients with a family history of prostate cancer have a higher risk for developing prostate cancer. Because early prostate cancer does not give any reliable signs or symptoms, annual screening is needed to detect the developing cancer. At the Conrad Pearson Clinic, we experienced urologists perform annual exams and PSA blood tests as a routine part of our practice. If there is any abnormality in the PSA or the rectal exam of the prostate, it is critical to determine whether or not the cancer is suspected, as some abnormalities may be due to other causes. For example, the PSA is notoriously affected by urinary infection. If the PSA is high and there is a urinary infection as well, then the infection should be treated and the PSA reduced several weeks later. Clearly not every abnormal PSA means cancer. Make sure that you see an expert so that your test results can be interpreted accurately.

Prostate Cancer

By Robert S. Hellabragh, Jr. MD

Introduction

The prostate gland is a focus of medical concern for all men after age 40. Both benign and malignant conditions can affect the gland. Benign enlargement of the prostate (BPH) can cause urinary difficulties, and will affect almost all men as they get older. Of even greater concern, in 1 in 6 men will develop prostate cancer, making prostate cancer the second most common cancer and the second leading cause of cancer death in American men. While many statistics surround prostate cancer, it is true that most men who have prostate cancer do not die from it.

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If suspicion of possible cancer persists, your urologist will perform a prostate biopsy. This is usually performed in the office or surgery center and consists of a needle being used to poke the prostate thru the rectum under ultrasound guidance. It sounds a lot worse than it actually is, and usually about like a bee sting in the bottom. The information obtained from these small tissue samples will tell whether or not there is cancer in the prostate. In addition, the details of the biopsy results will characterize the grade and stage of the cancer if it is present. The results of the biopsy are usually available one week later, and your urologist will go over these with you. If there is cancer, lots of information needs to be considered, and some additional tests may be ordered to further evaluate the extent of the cancer. Early stage cancers rarely spread. If prostate cancer does spread, it preferentially goes to the bones or lymph nodes. To assess these areas, bone scans and CT scans may be ordered; however, in many cases these are not needed. Based on all of this information, your urologist will sit down with you to consider a variety of treatment options, and decide what is best for you and your particular situation. The extent of treatment is very important, but a patient’s medical history and personal preferences need also be taken into strong consideration. Clearly there is no single treatment that is best for all situations.

Decision Making

Lots of different factors are used in deciding what course of treatment is best for a particular case of prostate cancer. The doctor’s assessment of the extent of disease is perhaps the most important factor. Usually, the patient’s test results and statistics, your urologist will try to determine if the cancer is confined to the prostate gland or if it is likely organ confined, then all treatments can be considered legitimate options. If it is not organ confined, assessment must focus on whether the cancer is widespread or just locally advanced. Cases with widespread metastatic prostate cancer usually rely on hormone deprivation therapy or new chemotherapy regimens to treat the cancer. Metastatic prostate cancer is not curable with surgery, radiation therapy, or cryotherapy. In some cases the cancer may not be metastatic, but doctors think that the cancer is locally advanced; in other words, the cancer is growing thru the capsule of the prostate gland. In these circumstances, surgery may not be able to remove all of the cancer. Also, it may be difficult to safely defer radiation to the areas outside the prostate gland.

Cryotherapy also has certain limitations in treating areas outside the prostate capsule. In any case, statistics can shed light on the successes of treatment in these various circumstances.

The chances of treatment failure or success can be assessed by categorizing prostate cancer with regard to Stage, PSA level, and Gleason Score. Patients with (1) Early Stage (T1 or T2a), (2) PSA less than 10 ng/ml, and (3) Gleason 2-4 are considered “Low Risk” for treatment failure. If any one of these three criteria is not met, then the patient is “Moderate Risk.” If any two
of the criteria are not met, then the patient is “High Risk” for failure. While there are many other methods for risk stratification, this one is fairly simple and lots of statistical data regarding treatment failure has been reported using this methodology. The following tables show the cure rates of the different therapies based on the risk categories, as published in professional urology journals over the past 10 years. While this is not an absolute answer as to what therapy is best for a certain situation, it gives some assessment of relative cure rates for different circumstances and treatment options. The high and low percentages seen in each category represent the best and worst study results for the given type of treatment. Obviously, most results were somewhere in between the high and low reports. As you can see, for low risk patients, all of the treatment choices have excellent cure rates.

### Treatment Options

In deciding how to treat newly diagnosed prostate cancer, the first fork in the “decision tree” usually revolves around the decision of trying to either (1) cure the cancer, or (2) control the cancer. With most cancers, the patient’s main focus is on “cure”, but in many cases “control” may also be a good choice. In general, prostate cancer is a very slow growing cancer. It takes years, rather than days, for it to get to the problematic stages.

Knowing this, we can safely take our time and consider the various options and understand the risks and benefits of each.

For many people, especially young individuals or those who have a life expectancy of greater than 10 years, curative therapy is recommended. For the elderly or those who have lots of medical issues, non-curative management options that control the cancer, but not cure it, may be reasonable options so that these individuals can live out their normal life expectancy while hopefully avoiding complications of the cancer as well as potentially risky cancer treatments. Curative treatment options include radical prostatectomy, radiation therapy, and Cryotherapy. Non-curative management options include watchful waiting and hormone deprivation therapy.

### Radical Prostatectomy

This is the most well-known treatment for prostate cancer, and involves the surgical removal of the entire prostate gland. For decades this surgery required an incision in the lower part of the abdomen to allow access for the surgeon to remove the prostate. In recent years, advances in technology and instrumentation have led to a new treatment approach combining the benefits of open surgery with the benefits of less-invasive laparoscopic techniques. This approach, performed in Memphis by surgeons at the Conrad Pearson Clinic, is robotic-assisted laparoscopic radical prostatectomy, also called da Vinci Prostatectomy. Rather than a large incision, the robotic operation uses very small incisions where instruments and a camera are placed. The procedure is performed using the da Vinci Surgical System. It provides a fully robotic system controlled by the surgeon. The surgeon’s hand movements are relayed to the instruments inside the patient, which enhances precision, eliminates hand tremor, and improves vision through magnification. During the operation, the surgeon is seated a few feet away from the patient at the da Vinci System console, and uses hand and foot controls to manipulate the robot’s three mechanical arms. These arms have a full range of motion that replicates the surgeon’s exact hand movements with tremendous precision. Compared to open radical prostatectomy, robotic prostatectomy offers quicker recovery and less blood loss, with the same rate of cancer control. Learning how to perform robotic prostatectomy requires taking advanced study courses and dedicating many hours to training, and competence is achieved only after performing the operation many times.

### Radiation Therapy

Not all cases of prostate cancer are best treated with radical surgery, and in fact, many cases need consideration for other therapies. The extent of the cancer or the overall health of the patient will have a major role in determining the best of many other treatment options. Radiation therapy, like surgery, offers excellent rates of cure for localized prostate cancer. Radiation therapy is available in two broad categories: External Beam therapy and Brachytherapy (radioactive seed implantation). Efficacy is virtually the same with each method, but the application is different. For brachytherapy, radioactive seeds are placed in the prostate tissue using a computer generated model that allows for delivery of radiation dosing for a prescribed amount of time once implanted. The radioactive seeds are put in place using needle guides while the patient is under anesthesia. Each seed is about the size of a grain of rice, and do not have to be removed later. Usually about 70 seeds are placed, but that is determined by the actual size of the prostate. The procedure is performed in a hospital with patients usually going home the morning after surgery. External beam radiation therapy has a favorable long-standing track record and continues to have technological upgrades. Currently the most advanced form is called Intensity Modulated Radiation Therapy (IMRT). IMRT uses computer models and CT scan technology to focus radiation dosing on the precise area of the prostate, avoiding radiation exposure to other nearby organs. Exposure to neighboring organs can mean much less complications related to collateral radiation damage. The course of treatment is usually a 20 minute daily regimen over a period of about 6 weeks. It requires no anesthesia, and patients are usually at near normal activity levels throughout the course of therapy. Statistics for success rates of either form of radiation therapy are excellent.

### Brachytherapy Probes

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<thead>
<tr>
<th>Probe Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Template</td>
<td>Used to outline the prostate gland</td>
</tr>
<tr>
<td>Transrectal Ultrasound Probe</td>
<td>Used for imaging and guiding the placement of radioactive seeds</td>
</tr>
<tr>
<td>Prostate Tumor</td>
<td>Represents the prostate gland</td>
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<tr>
<td>模板</td>
<td>用于勾画前列腺轮廓</td>
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<tr>
<td>经直肠超声探头</td>
<td>用于成像和引导放射性种子的放置</td>
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<tr>
<td>肿瘤</td>
<td>代表前列腺</td>
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