

TREATMENT OF STAGE -C- PROSTATE CANCER -- CURRENT THOUGHTS

Stage C cancer means that the cancer remains in and around the prostate but has not spread to other organs, such as lymph nodes or bones. The areas that might be involved include:

the tissues and muscles of the pelvis around the prostate
the seminal vesicles, which are glands that also make semen and are connected to the prostate gland
the bladder neck (where the prostate and bladder join)

The following are the choices that are available to us in the treatment of Stage C prostate cancer.

NO TREATMENT

This option consists merely of close observation of the cancer, looking for any signs of progression with blood tests, scans and physical examinations. Specific cancer treatment will be undertaken only when problems arise from the cancer growth. While this approach may seem out of the question in some cases, withholding treatment is appropriate and justifiable in many circumstances. The treatments might be more risky than the disease. For instance, a very elderly male with Stage C cancer, and with no symptoms, might be better left alone. The same goes for someone with other significant medical problems such as emphysema or heart disease. In the absence of symptoms, and in the presence of other medical situations which are more threatening, observation may be appropriate.

In some medical environments, such as Sweden, no treatment or observation has become a fairly standard approach to prostate cancer. They believe that in some patients, the disease will grow so slowly that radical treatment is unneeded because patients will die of other diseases. In patients whose prostate cancers grow quickly, they feel comfortable that treating the spread with medical or hormonal treatment is all that is required or needed, even if not curative. Observation has many supporters and must be considered.

HORMONE THERAPY

The prostate gland is uniquely male. Its very existence is due to the presence of male hormones, which the prostate, and most prostate cancers require to grow. This observation led urologists to the use of hormone reduction to treat prostate cancer in the 1940s. Except for newer drugs, the principles of hormone reduction still stand today.

Most male hormone, or testosterone, is made in the testes. The usual way of effecting hormone reduction is either a monthly shot (Lupron or Zolodex) or surgical removal of the testicles (orchiectomy). The shots are temporary and the effects are reversible when the shots are stopped. Removal of the testicles is a permanent treatment that cannot be reversed. Medication taken in pill form, referred to as antiandrogens such as flutamide or bicalutamide, may be added to either of these treatments to further reduce male hormone activity.

Seven out of ten men will have an initial reduction in the tumor present. Unfortunately this response is usually not permanent. In most patients the response to hormone therapy will last 2-

3 years. In most cases the first sign of the cancer growing once again is a rise in the prostate specific antigen (PSA). Other treatments may then have to be used.

In some patients, reversible hormone treatments with shots and pills (Lupron, Zolodex, flutamide, bicalutamide) can also be used to temporarily shrink the cancers, so that the cancer might then respond better to surgery or radiation treatments. Adding hormone treatment to radiation or surgery is still experimental, but some of the preliminary studies have shown good responses. Hormones may be given for three to eight months before surgery and then usually stopped after the prostate has been removed. Hormones are usually given at the same time as radiation treatments (external therapy or implants) and then stopped after the treatments are completed.

SURGERY

Surgical removal of the prostate, or 'Radical Prostatectomy', is felt to be a standard therapy for localized prostate cancer or Stage B. The use of surgery for locally extensive cancer (Stage C) is more controversial. With the addition of pre-surgery hormone treatments, many inoperable patients can be successfully treated with removal of the prostate. The possibility of lymph node involvement that cannot be seen on CAT scan or MRI is very high, perhaps 50% or more. The lymph nodes are usually carefully examined in patients with Stage C disease before the prostate is removed. If the nodes are involved, most surgeons feel that removal of the prostate should not be done and the surgery is stopped.

In some situations, when the PSA is very high (over 20) and the tumor is very aggressive (Grade is > 7), we may consider laparoscopy to look at the lymph nodes. This is a telescopic examination of the internal structures done with a general anesthetic. Laparoscopy allows us to remove suspicious lymph nodes without a big incision in the abdomen. If the nodes are not involved, surgery or radiation can then be done.

Radical prostatectomy involves removal of the entire prostate gland. The bladder is reconnected to the urethra (channel through the penis). Removal of part of the prostate or just the cancer is not done. Too many prostate cancers have multiple areas of involvement within the gland that are undetected, making partial removal a poor choice. Also, partial prostatectomy is not technically feasible.

The major advantage of total prostate removal is the simple fact that IF the cancer is localized to the prostate then removal of the prostate will potentially cure the cancer.

The major disadvantages are:

There is no guarantee of cure of the cancer

Incontinence--2-4% of men will have permanent problems with urinary control-- they will require some form of protection (diapers). In those rare cases, a surgical appliance can be implanted to control incontinence if it does remain a problem.

Impotence--The nerves that stimulate erections run adjacent to the prostate on their way to the penis. If all of these nerves are removed during total prostatectomy, impotence (inability to achieve an adequate erection) will result. In certain circumstances, some of the nerves that create erections can be spared with a success rate between 40-70%. Not every man is a good candidate for nerve sparing because of the extent of disease, particularly Stage C cancers. Patients who develop impotence, and even those whose erections were not adequate before the

surgery can be treated with a variety of modalities. Treatment of impotence in post-prostate surgery includes vacuum pumps, self-injections of medications and placement of prostheses -- all of which work, and work well in selected patients.

Blood loss--Radical prostatectomy carries with it an average blood loss of greater than one unit of blood. On occasion, the blood loss can be more than three or even four units. To prevent the use of bank blood we sometimes ask patients to store their own blood for subsequent use, if needed. Easy to do, and clearly the safest way to receive blood.

Surgical complications--pain, infection, anesthetic problems, pneumonia, blood clots, and heart problems can occur with any major operation. Unique to prostatectomy are injury to the rectum (adjacent to the prostate), and scarring of the new connection between the bladder and urethra, which might require stretching, performed in the office or in day surgery.

Recovery Time: The operation lasts two to three hours and the hospitalization usually lasts 2 to 3 days. All patients go home with a catheter in place, continually draining the urine into a special leg bag. You will be seen three weeks after surgery to have the catheter removed. Most men have poor urinary control at the beginning and will require some form of protection, such as a diaper. Within three weeks, most men have achieved reasonably good control and require minimum protection and have resumed their normal activities. Sometimes, the recovery is slower, but rarely more than three to six months.

RADIATION THERAPY -- EXTERNAL BEAM

External beam radiation therapy is one of the simplest of therapies trying to cure the cancer. Over a six to seven-week period, the patient will receive a radiation treatment lasting about 15 minutes, 5 days a week. The radiation is aimed at the prostate from many different angles in an attempt to reduce the dosage to the surrounding tissues while maximizing the dosage to the prostate and the cancer. As mentioned above, we may give temporary hormone shots and pills during the radiation treatment.

The advantages of external radiation therapy are its ease of administration, requiring no surgery, no anesthesia, and no blood loss. The biggest disadvantage is that the cancer is left in place and one must hope that the amount of radiation delivered is enough to cure the cancer. Unfortunately, the surrounding structures being sensitive to overdoses of radiation, namely, bladder and rectum, limit the amount of radiation that can be given safely. Hence the dose given may not be enough to kill all the prostate cancer cells. The recurrence rates of the cancer at later times is in the range of 70% or more, as measured by rising of the tumor marker, PSA.

During the last two to three weeks of treatment, diarrhea and urinary urgency and frequency are quite common and on occasion so severe that the treatments need to be temporarily halted. These symptoms usually resolve two to three weeks after the radiation treatments have ceased. Permanent radiation injury to the bladder or rectum occurs in a small percent of patients creating chronic pain and/or bleeding. Difficulty with erections (impotence) occurs in 50% of patients who were having no problems prior to treatment.

IMPLANT THERAPY

Implants are forms of radiation therapy that can be used with localized cancer. Stage C cancer usually involves areas that the implant will not treat. Most radiation therapists will not consider implants for Stage C disease.

CHEMOTHERAPY

Chemotherapy is the use of medicines or drugs to stop the growth of cancers. Chemotherapy is used for the most part in patients whose disease has spread to other parts of the body (metastases) and is resistant to other forms of treatment.

The drugs are very powerful and work by killing cells that tend to grow quickly. Cancers tend to grow quickly, but, unfortunately, so do cells in bone marrow, gut and other areas. Anemia, weakness, nausea, vomiting, diarrhea and other side-effects can occur. Unfortunately, chemotherapy rarely cures prostate cancer, but merely palliates or temporizes the cancer growth. Because of the poor track record with prostate cancer, chemotherapy tends to be used only when all other avenues of treatment have been exhausted.

CRYOTHERAPY

Cryotherapy or 'freezing' the prostate has been around for 40 years. The original technique involved open surgery and placement of liquid nitrogen directly into the prostate cancer. The overall success rate was marginal and the technique was abandoned in the early 60's. More recently, cryotherapy using ultrasound as a guide to place needles has returned. To date, insufficient data exists to know how effective cryotherapy might be. The frozen tissue dies and is then either urinated out or re-absorbed into the body. Whether all of the cancer is killed is unknown at this time.

Follow-up to Treatment.

After your treatment is rendered, regardless of which treatment is undertaken, we will be following your progress very closely. If surgery or observation is chosen, the follow-up will be through our office. If radiation or implants are used, the follow-up will be shared by our office and the radiation therapists.

The keys to follow-up in most circumstances will be the rectal exam of the prostate, or, in the case of surgery, the area where the prostate was. We will be looking for evidence of recurrence or regrowth of the tumor. If suspicious areas occur, ultrasound and biopsies of these areas may be indicated.

In addition, the PSA blood test can be used as a marker for the effectiveness of treatment. If the prostate gland is removed (Radical Prostatectomy) we expect the PSA level to be unmeasurable (reported by the laboratories as less than 0.1, 0.05, or 0.02, depending on the specific assay that is used). If any PSA is measured after Radical Prostatectomy, then the presence of prostate cancer cells somewhere in the body has to be suspected. Prostate cancer cells that have spread to other areas also leak PSA. Even if we cannot find the areas of spread with scans or other tests, the presence of PSA means that the cancer is present. IF the treatment of the cancer was with any form of radiation, chemotherapy or hormone therapy, the PSA level will not necessarily become unmeasurable. The normal prostate cells may not be destroyed and may still leak normal amounts of PSA. However, the PSA level should be stable if the treatment is working. That means a rising PSA level suggests growth of the cancer.

In summary, all the treatments discussed above are appropriate and acceptable. This handout is an outline of the important points of each treatment. More than likely you will have other questions to be answered. Some of the terminology may not be clear or understandable to you or your family. You may have heard of other treatments for cancer that might be applicable. We expect to be able to discuss all these questions with you in further detail.