

TREATMENT OF LOCALIZED PROSTATE CANCER -- CURRENT THOUGHTS

To make any sense of this handout, you must already understand that the diagnosis of prostate cancer has been made, and that we have no reason to suspect that the cancer has spread from the prostate. Any treatment that can control the cancer in the prostate, will therefore control all the cancer. The following are the choices that are available to us in the treatment of localized prostate cancer (Stage B).

NO TREATMENT OR SURVEILLANCE ONLY

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 most cases, withholding treatment is appropriate and justifiable in certain circumstances. The treatments might be more risky than the disease. For instance, an elderly male (in his 80's?) with localized cancer, and with no symptoms, might be better left alone. In the absence of symptoms, and in the presence of other medical situations which are more threatening, observation is correct.

In some medical environments, Sweden, for example, no treatment or observation has become a fairly standard approach to early 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 in treating the spread with non-curative medical treatment. For the most part, this approach goes against the attitudes of most American cancer specialists. Still, observation has many supporters and must be considered in certain situations.

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.

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 and except for newer drugs, the principles of hormone reduction still stand today. The usual way of effecting hormone reduction are either a monthly shot (Lupron or Zolodex) or surgical removal of the testicles (orchiectomy). Pills may be added to either of these treatments to potentiate hormone reduction.

Unfortunately, hormone therapy is effective only temporarily in most patients. Seven out of ten men will have an initial reduction in the tumor, but within 2-3 years most cancers that do respond will again start to grow. Because hormone therapy is not curative, we usually do not recommend this for localized cancer with life expectancy greater than 10 years.

SURGERY or RADICAL PROSTATECTOMY

Surgical removal has one major and obvious benefit--it has the opportunity to remove all of the cancer. Removal of the entire prostate is felt to be the standard therapy for localized prostate cancer. Simply, the entire prostate is removed and the bladder is reconnected to the urethra (channel through the penis). Removal of part of the prostate or just the cancer is not recommended. 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, as we believe, then removal of the prostate will cure the cancer -- it is out! If the cancer is not localized to the prostate, that means it has spread; removal of the prostate will not cure the cancer.

The major disadvantages are:

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 male is a good candidate for nerve sparing because of the extent of disease. 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, but rarely, the blood loss can be more than three or even four units and require transfusion. About 1 in 10 patients require a transfusion if they have not donated blood to the blood bank. To prevent the use of bank blood many patients elect to store their own blood for subsequent use, if needed.

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 a minor surgical procedure to stretch or dilate the scarred area. This can be performed in the office or in day surgery.

Recovery Time: The operation lasts two to three hours and the hospitalization usually lasts 2-3 days. All patients go home with a catheter in place, continually draining the urine into a special leg bag. You will be seen two weeks after discharge from the hospital 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 by far the simplest of therapies. 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.

The major advantage of external radiation therapy is its ease of administration. Other advantages include the fact that there is 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, with the surrounding structures being sensitive to overdoses of radiation, namely, bladder and rectum, the prostate cancer is often stunned but not cured. The chance of recurrence of prostate cancer treated with external beam radiation therapy is in the range of 6 out of 10 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 35% of patients who were having no problems prior to treatment.

IMPLANT THERAPY

Implants are forms of radiation therapy with many of the same risks and benefits. Implants are often combined with external therapy, depending on the type of implanted radiation and the extent of the cancer. Implants are ultrasound guided radiation treatments done under anesthesia. The operation lasts from 1 - 2 hours and hospitalization lasts from 1-2 days. Some implants are permanently left in place (Iodine, Palladium, Gold) and some are temporary (Iridium). Implants allow for higher doses to the prostate while sparing the surrounding tissues. A theoretically higher cure rate should be observed. Implants have been around since 1970 and were done initially with free-hand techniques. The results with free-hand implantation were not very encouraging. Ultrasound guided implants became available in the mid-1980s and long-term data is still not available to determine how effective these treatments might be. However, the early results are very encouraging in selected individuals. Bladder and rectal irritability does occur. Implants must be considered experimental at this time until more is known about long-term survival and cure rates.

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. The major drawback of cryotherapy is the fact that all of the cancer is not removed and long term recurrence rates are higher than with other treatments.

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 Prostate Specific Antigen or '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. The PSA report will say "<" or "less than" the lowest value that a particular test can measure, for example "<0.05". If the "<" or "less than" is not present, it suggests that the PSA level was measurable. 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. Perhaps, some more than others in certain situations. 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 make sense. 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.