LATEST IN PROSTATE CANCER

by: Gil Lederman, M.D.

One of the big prostate cancer success stories is the innovation using radiation seed implantation directly into the prostate followed by a limited course of radiation.

Nearly a decade ago many were hopeful that radiation seeds by themselves would be complete therapy for prostate cancer. In fact, in the early 1990's when our data was presented at medical conferences many physicians asked "why bother patients with follow-up 25 external beam treatments?" My reply was always the same, "I believe our patients don't seek convenience but rather best chance of cure."

What is cure in prostate cancer? It is that PSA falls to an undetectable or near undetectable level; that there is no clinical or radiographic evidence of cancer by patient symptoms or physical exam and repeat prostate biopsy confirms absence of cancer.

Radiation seed implantation using radiographic and ultrasonic guidance was introduced in this country only in the mid-1980's. It had first been developed in Denmark and reported in 1983. The rationale of physicians was that seeds should be used as a boost to a limited five week course of radiation in lieu of standard radiation's "cone-down" lasting weeks longer.

Seeds would greatly increase the radiation dose to the prostate - the site of bulk cancer - and external radiation would serve to increase dose to the prostate and immediate surrounding tissues.

Of course, in decades past, there have been two courses of radiation, a larger field and a smaller field. This smaller field was known as the cone-down giving a dose of radiation mainly to the prostate. We decided to eliminate the cone-down using the conventional external beam radiation and then substitute with seed implantation.

In that fashion, a very high dose is administered - 9000 rad minimum dose with Palladium seeds and 12000 rad with Iodine seeds. Rad is a measurement of radiation administered. Many centers don't use Palladium - which is more expensive, yet faster acting having a shorter half-life.

Early on it was also decided that seeds would be placed <u>before</u> the external beam radiation. Therefore the seeds would still be working when the external beam radiation was delivered. Some centers have used the converse - external beam radiation first and seeds following. Theirs offers a less biologically active approach to prostate cancer since all the external beam radiation is out of the patient when the seeds commence functioning. We liked the more effective approach.

Other differences at our center include the fact that a dedicated suite was developed for placement of seeds where fluoroscopy and ultrasound were both used to visualize placement of the seeds. We felt it was important that the fluoroscopy be used routinely to watch placement of every seed.

If other centers did not have fluoroscopy or the physicians were frightened about their own radiation exposure, knowledge about exact placement of the seeds would be limited possibly even unknown. Furthermore, some other centers use significantly lower doses of radiation. In fact, several hospitals use nearly half the seed dose. While this saves money and there may be fewer symptoms for the patient, one would anticipate markedly lower cure rates. In fact, most centers don't even bother to report their data.

We recently updated our data having placed a thousand men in this program with more than 100,000 prostate seeds. Men treated were subsequently evaluated clinically, biochemically and often pathologically.

Biochemical prostate cancer failures were called if any hormone treatment was used post treatment or if there were two consecutive rises in the PSA. PSA is an abbreviation for prostatic specific antigen and is an important blood marker for prostate cancer. Additionally any PSA greater than 5 at the last follow-up was called a failure.

The difference between our approach and surgical approach is that surgeons would treat only localized disease while we were able to treat men both with localized and locally advanced prostate cancers.

Nevertheless, having taken higher risk patients we established a low-risk group consisting of men with PSA's of less than 25 and Gleason scores of less than 7. This is dramatically different than low-risk groups elsewhere. Most low-risk groups only take men with PSA's up to 10. That is true, for example, of the Memorial Sloan Kettering Cancer Center approach of prostate cancer.

Why could we take men having PSA's up to 25 and call them low-risk? Because of the efficacy of our approach. If treatments are more efficacious then those considered high-risk elsewhere would be categorized low-risk in our hands.

When our data is evaluated using this criteria (initial PSA up to 25) it was found that the five year rates of being free of prostate cancer was 89%. This is dramatically different than, for example, Sloan Kettering conformal radiation where the low-risk group takes patients only up to PSA of 10. In that case, their five year data showed only an 86% chance of success. (Our patients, in an identical group to Sloan, has a 93% freedom from cancer rate!!!)

Thus, using more rigid criteria we have even better results than a major cancer center nearby. Furthermore, our group plateaus at this level so that the eight year freedom from prostate cancer remains at 89% for this group of men.

Our study is important for several factors. The first is that men with what would be considered high-risk features elsewhere, i.e., PSA up to 25 are considered low-risk with us. Secondly these patients are doing so well with an eight year freedom from cancer rate of 89% - higher than other major centers having less strict criteria at the five year mark!

Our programs appeal over surgery is multi-fold but includes superior results, no hospital stay, and avoidance of surgery convalescence and maintenance of urinary and sexual function for the majority.

This information should be reassuring for men with prostate cancer. This innovative approach not only makes sense but, in fact, pans out statistically.

Further advances enhance the appeal of our approach. In addition to the vast work done with prostate seeds currently we add in more precise or pinpoint radiation called body radiosurgery. The improvement in outcome using this technology will be discussed in a subsequent article. The field of prostate cancer treatment is very competitive and we seem to be on top due to decisions made years ago and the experience accumulated over that interval with follow-up of our patients.

We have established a hot line at 212-CHOICES and e-mail address: gil.lederman@rsny.org. There are also monthly seminars on brain, body and prostate cancer treatment. We also will ask that you send in copies of films, reports, pathology for review by our panel of experts. We invite

your participation. We encourage you to learn as much as you can.