

# LEARNING ABOUT PROSTATE CANCER BY EXAMPLE

By: Gil Lederman, M.D.

Prostate cancer remains a controversial topic among physicians in the field. Patients are caught in the middle of the ongoing debate often seemingly lost as to what direction to take. Sometimes, treatment decisions are made by judging the personality of the doctor. This, by itself is probably not a good idea. Medical results and data must be taken in to account as well. This is critical.

Certainly, one can't blame patients for the confusion since data is sometimes difficult to interpret. Few take enough time or are adequately prepared to review details before leaping into the vast unknown. I attempt to present current data to every patient seeking a radiation consultation about prostate cancer.

In order to better outline the differences of treatment and the problems associated I described a particular patient seen earlier today. This is a true story. A prominent New York businessman at age 65 was found to have an elevated PSA a year earlier. PSA stands for prostatic specific antigen and is used as a screening test and marker for prostate cancer. Because of the elevated PSA, he had a biopsy, which was said to be negative. Yet his PSA subsequently rose to 12. A repeat biopsy showed a Gleason 6 cancer. Gleason defined a grading system to best evaluate prognosis based upon pathologic appearance of two separate areas cancer in the prostate. It is not unusual that men may have repeat biopsies when the first one or ones do not explain the elevated PSA. The most common biopsy results in American males with prostate cancer is Gleason 6 - affecting about 43%.

The patient sought consultations with several surgeons and eventually decided on nerve-sparing operation at a well-known outside institution. He canceled a planned meeting with me opting to go with radical surgery. He had no radiation oncology consult first. I urged him to evaluate our data, at least, before surgery. Perhaps he would want to come to our monthly seminar where all data is presented and discussed. No, he didn't show up after being encouraged to attend.

A disciple of Patrick Walsh, Urologic Chief at Johns Hopkins who originally developed the nerve-sparing operation, operated on this gentleman for his PSA 12, Gleason 6 prostate cancer. The patient's expectation was that the nerves would be spared; the patient would maintain sexual function and most likely be cured of the cancer. This would not be my expectation however, from knowing the data.

However, if the patient investigated Walsh's data first he would have seen that the likelihood of success would have been quite small - based on the numbers published by the distinguished professor from Johns Hopkins.

Walsh's data for cancer-free survival for men with PSA's 10 to 20 is 72% at five years, yet is only 30% at ten years! That means more cancers in Walsh's had relapse after five years than before five years and that most men have cancer recurrence after radical surgery in this group. Seventy percent of his patients have prostate cancer recurrence in this group.

However, for this man the nightmare had just began - at surgery, the cancer was found to have spread along the nerves predicting a high-risk of capsular involvement. The capsule generally contains the prostate but can be penetrated by malignancy.

Furthermore, when the pathology was reviewed cancer had already spread to the margin of resection meaning cancer cells were left behind by the surgeon. Like when cutting bread on a breadboard with a sharp knife it is hard to leave no crumbs behind. Similarly when cancer is spread beyond the prostate it is likely that cancer cells remain. When the pathologist finds cancer cells up to the edge of resection, all believe there are cancer cells on the other side - left in the

patient's body. Other studies suggest that the surgeon spreads cancer cells at the time of manipulation when attempting to resect the cancer in the operating room.

Furthermore, in this gentleman, only one nerve was spared not two. We know from other studies that sparing only one of the two nerves allows little chance of sexual function. In fact, this gentleman's erectile function ceased that day. A study from Harvard shows erectile function remains in only about 20% of men with bilateral nerve-sparing surgery. If one nerve only is spared, erectile function falls to zero.

To add the ultimate complexity on the case, upon review of the full prostate the cancer was found to be a Gleason 7 not Gleason 6! About a third of patients have higher grade cancer found if radical prostatectomy is performed. This means the men can't ever determine perfect pathologic results without surgery - another scare. (We treat men, in general, as if they could have a higher risk cancer. This approach, I believe, accounts for our superior results.)

Thus, while the patient felt he was a Gleason 6 with PSA of 12 going in for nerve sparing operation, he left the hospital with a Gleason 7, the nerve cut, sexually impotent and in the subsequent months after radical surgery with a rising PSA, meaning recurrent cancer.

Could this patient have chosen better? I certainly believe yes. One might accuse me of being biased. I believe I know the data well and can predict outcome based upon prognostic factors.

First of all, in our radiation/seed program, our results for men with PSA's 10 to 20 is 85% cancer-free survival at five years. Thus, just by knowing the PSA the gentleman could have predicted a better outcome being cancer free using our approach compared to a surgical approach.

Furthermore, the majority of men maintain sexual function having both nerves intact after radiation. Data from Harvard and the University of Pennsylvania for a patient like this, with a Gleason 7, PSA 12 cancer, shows five year disease-free survival after radical prostatectomy or standard radiation there of only 60%. Our results avoiding radical prostatectomy but using seeds and body radiosurgery are markedly superior.

Our data for the same category shows an 86% cancer-free survival. This represents a 43% improvement. Furthermore, this gentleman, who was dissuaded from radiation by his surgeon early on, is now being encouraged in no uncertain terms both by his surgeons as well as his family to seek radiation in an attempt to kill the last cancer cell most likely sitting in the prostate bed. Hopefully, cancer cells have not been spread beyond the prostate bed.

Thus, wanting to have the nerve sparing operation to save his life and his sex life, he has seen that his normal sex life has stopped and his life may be jeopardized should second line therapy not be successful.

There are many educational points about the case. The first is that biopsies can frequently miss grade the Gleason score of the cancer. The patient's point that the previous year's biopsy might well have been positive, had more samples been taken, is reasonable. It may well have been repeated within a shorter period of time although his story is not that unusual. Many patients are reluctant to undergo repeated biopsies.

Furthermore, biopsies only represent sampling and while his biopsy which showed a Gleason 6 cancer was positive it did not fully represent the Gleason 7 that was found at the time of radical prostatectomy. And about the limitations of radical prostatectomy we have learned so much - limited sexual and urinary function - and limited disease-free survival - as well as the undesired convalescence.

Gleason produced a pathologic criteria based upon microscopic appearance of the cancer cells. As patients get higher Gleason scores particularly greater than 6 surgical results falter even more

precipitously. Yet this patient had the warning sign of the elevated PSA which bodes poorly for surgery. Walsh's, nerve-sparing prostatectomy only has a 30% cancer-free survival in men with PSA's greater than 10 at ten years.

Hopefully stereotactic body radiosurgery will fit the bill for this patient. Our experience thus far has been well received in attempting to salvage radical prostatectomy failures. Ongoing evaluation of our data will be important for this group of men.

In this vein it is hoped that others learn the nuances of prostate cancer care before committing themselves to a certain approach. This case may well inform many other men about the pitfalls of opting for treatment without investigating all options first.

We have established a hot line at 212-CHOICES and e-mail address: [gil.lederman@rsny.org](mailto: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.