WHEN DOES RADICAL PROSTATECTOMY FAIL?

By: Gil Lederman, M.D.

One of the ongoing disputes in medicine is determining the best treatment with prostate carcinoma. A variety of approaches including no treatment, radical surgery, standard radiation, conformal radiation, radiation seed or seed plus sophisticated radiation such as body radiosurgery has been used.

Previously, we have analyzed our data compared to these other methods of treatment. Our data shows an improvement in disease-free outcome for men with prostate carcinoma undergoing seed plus body radiosurgery treatment.

In a recent article by D'Amico et al, published in the Journal of Clinical Oncology an analysis of treatment failure after radical prostatectomy was carried out. The purpose of the analysis was to select patients who are at higher risk for failure after radical prostatectomy and consider additional therapy. I would argue it points out the weakness of radical prostatectomy as a treatment modality.

Helping determine who fails radical prostatectomy will allow patients and their physicians to best chose treatment options both prior to any initial therapy and unfortunately after radical prostatectomy based upon pathologic and clinical findings.

Patients treated who did not have hormonal treatment before surgery were analyzed based on the Gleason score which is the appearance of the cancer under the microscope. The Gleason score ranges from 2 to 10 with higher numbers being suggestive of more aggressive cancers. Another important prognostic criteria is the PSA, prostatic specific antigen. This is a blood test measured both before and after treatment. Higher levels, in general, are associated with worse outcome.

There are other points of analysis which include the percent of the biopsy of the prostate biopsy occupied by cancer. Whether or not the cancer is confined to the prostate. Whether extra-capsular extension of the cancer is present or whether the adjacent seminal vesicles are invaded by cancer. Extra-capsular extent means the cancer has spread beyond the capsule of the prostate. It is usually an ominous sign. Also, whether the margins are positive for cancer cells is an important prognostic criteria.

So based upon this data, who is at risk for failure just two years after radical prostatectomy?

If, for example, the patient has seminal vesicle involvement a Gleason score of 8 to 10 at radical prostatectomy and positive margins with the cancer occupying more than 50% of the biopsy, 99% of patients fail at two years. If, in the same group, less than 34% of the biopsy is occupied by cancer still, 68% of patients fail at just two years.

For patients with seminal vesicle involvement Gleason 8 to 10 with negative margins and less than 34% biopsy containing cancer, 52% of the patients have recurrent cancer at two years and rises to 93% of patients having recurrent cancer if more than 50% of the biopsy contains cancer.

Similarly, if a patient has a Gleason 7 cancer with seminal vesicle involvement and positive margins, 55% recur within two years if a third of the biopsy contains cancer and 94% have recurrent cancer if more than 50% of the biopsy contains cancer cells. All of this data includes patients having a pre-operative PSA of greater than 20.

What happened if the cancer went beyond the capsule and the patient had a Gleason 7 at the time of radical prostatectomy with a pre-operative PSA of greater than 20 and positive margins?

35% had recurrent cancer within two years. If less than a third of the biopsy contained cancer, 79% had recurrent cancer within two years if more than half of the biopsy contained cancer cells.

For men with organ confined prostate cancer having a pre-operative PSA greater than 20 and a Gleason score of radical prostatectomy of 8 to 10 with positive margins, 37% had recurrent cancer within two years if a third of the biopsy or less contained cancer while 81% had recurrent cancer if more than half of the biopsy contained cancer.

For the same group of greater than PSA of 20 cancer confined to the prostate organ with a Gleason 7 and negative margins at the time of radical, 18% failed within two years in the less than a third biopsy group, while 51% had recurrent cancer, if more than 50% of the biopsy contained cancer cells.

Then what happened in the group who had initial PSA's of 10 to 20? If it was organ confined cancer, yet the Gleason score was 8 to 10, with positive margins 69% had recurrent cancer within two years if they had greater than 50% of the biopsy containing cancer cells.

Similarly, if the cancer was confined to the prostate, with a Gleason 7 and positive margins, 64% had recurrent cancer within two years if more than half of the biopsy contained cancer and even if the margins were negative, 46% had recurrent cancer within two years in this same group.

For men with organ confined cancer and a Gleason 2 to 6 which is a low-risk group, and positive margins with a pre-operative PSA of 10 to 20, 11% failed within two years if they had positive margins and less than an third of the biopsy containing cancer, while 57% failed if more than half of the biopsy contained cancer cells.

Thus, this data would suggest that men undergoing radical prostatectomy are a very high-risk for recurrence after radical especially if more than a third of the biopsy contained cancer even in the group with the pre-operative PSA of 10 to 20 in organ confined cancer. Patients with positive margins, extra capsular extension, seminal vesicle and higher PSA did worse.

I believe it is incumbent upon men to analyze all treatment options before making any decisions. It is certainly not an emergency for men to undergo quick treatment for their prostate cancer not knowing all treatment options.

Our data would suggest profound impact of disease-free survival based upon treatment decisions. We believe our radiation seed plus body radiosurgery program offers marked treatment benefit for those with localized or locally advanced prostate cancer. Our comparison data that is available to the public contains the effectiveness of our nearly non-invasive approach. Furthermore, it allows the man to avoid undergoing the radical prostatectomy and associated convalescence as well as the unwanted side effects of urinary and sexual dysfunction seen in so many men having had surgery.

There are marked improvements in disease-free survival in our group of patients undergoing prostate seed and radiosurgery treatment compared to similar risks group having other treatment approach. Certainly, investigation before making a step is instructive. Our comparative data is available to all who ask.

In our literature and on web site we distribute our prostate-cancer-free survival after prostate seeds plus radiation or radiosurgery compared to surgical results from Walsh at Johns Hopkins, Scardino now at Sloan-Kettering and oncologists from the University of Pennsylvania and Harvard. I believe it is incumbent to have such information at hand and in mind before deciding on therapy. Afterwards is too late.

Because of the high failure rate of radical prostatectomy, we encourage men to look at all treatment options. Obviously some men wish to have surgery. They believe that removing the

prostate will increase their chance of being cancer-free. Our data does not support that. In fact, just the converse.

For those with questions about prostate cancer, we have free seminars open to the public on a monthly basis. We also have a hot line at 212-CHOICES and you can e-mail question to gil.lederman@rsny.org. We also have panels of experts to evaluate each case. We believe that each man should investigate all treatment options before proceeding with cancer treatment – especially for prostate cancer where results can be so different and the side effects so vast.