

SURGICAL RESULTS OF RADICAL PROSTATECTOMY

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One of the major centers performing anatomical radical prostatectomy is John Hopkins University School of Medicine led by Patrick Walsh.

In a paper first-authored by Partin et al published in Urology Clinics of North America, the Johns Hopkins group reviewed results of 955 men treated for early stage apparently localized prostate carcinoma with surgery.

All patients underwent lymph node removal and radical retropubic prostatectomy. It should be noted that this group included only T1 and T2 prostate cancer. T1 and T2 indicate early stage carcinoma - what is considered the best prognostic groups dictated by stage or extent of cancer.

Pathologic review after surgery determined whether the cancer was, in fact, localized to the prostate or spread beyond.

After surgery, patients were followed with Prostatic Specific Antigen (P.S.A.) and physical examination. Sixteen patients were treated with radiation because of high-risk factors after surgery. Other patients subsequently received radiation because of rising P.S.A after surgery. The average follow-up of patients was 53 months. The authors defined recurrence of cancer as a P.S.A. greater than 0.2 ng/ml, or a recurrence that is detected at surgical site or distant metastases by bone scan or CT scan.

While there are 955 men in the study, the average man has only been followed 4-1/2 years at time of writing; One hundred eighty-five men have had recurrence of their cancer. This is remarkable since only 433 had been followed five years or more after surgery.

The authors evaluated the actuarial progression of P.S.A. relapse after radical prostatectomy. Rising P.S.A. levels after surgery are usually diagnostic of recurrent cancer. For those men with P.S.A. at diagnosis of 4.1 to 10, 30% relapse at 7-1/2 years and for the men with P.S.A. of 10.1 to 20.0, 44% relapsed by 7-1/2 years.

For the patients with P.S.A. before surgery greater than 20, 55% of patients relapsed by five years from surgery as determined by blood testing.

Similarly ten year recurrence-free survival for patients with Gleason's 7 carcinoma was 50% and for patients with Gleason's 8, 9 and 10 carcinoma, the ten year progression-free survival was only 15%. For patients with Gleason's 6 carcinoma, the ten year survival rate was 70%.

The doctors at Johns Hopkins correlated recurrence rate based on pathologic findings. At time of the paper if lymph node involvement was seen, 76% of men had recurrence of cancer, 52% had recurrent cancer when seminal vesicles were invaded, 33% recurred if there was penetration of the capsule by cancer with high grade cancer and 17% recurred if penetration of the capsule with low grade cancer. More recurrences would be expected as time passes since the average follow-up is short.

There was ten year actuarial (or predicted) freedom from P.S.A. relapse calculated. If seminal vesicle was involved, the ten year freedom from progression was 43%. If high grade carcinoma penetrating capsule was present, the ten year freedom from progression was 42% and with capsular penetration of low grade cancer, the ten year freedom from P.S.A. progression was 54%.

Of patients with lymph node involvement, there was a five year freedom from P.S.A. progression of 15% only. That means 85% of men had progressive cancer.

The authors found that "The actuarial recurrence rate for tumors with a Gleason's score of 7 was not statistically different from the recurrence rate for lesions of Gleason's score 8, 9 or 10."

Furthermore, the authors noted, "Patients with pre-operative serum P.S.A. concentrations greater than 10.0 ng/ml are at a statistically increased risk of recurrence."

The authors did use radiation in selected instances after surgery noting, "Men with an isolated elevation of serum P.S.A. after radical prostatectomy have a 25% likelihood of harboring an occult local recurrence. However, radiation therapy produces sustained suppression of P.S.A. to undetectable level for two years or more in only 10% of men. This suggests that radiation therapy is not effective in sterilizing occult local residual tumor in many men."

Thus, while surgery yields good results for men with early stage prostate cancer that have a low Gleason score and low P.S.A., other modalities are also effective in this good prognostic group. Men with low grade (Gleason score), small prostate cancers (T1, T2) and low P.S.A. level do better than if high risk features are present. We anticipate equivalent or superior results in a less invasive manner such as with transperineal radiation seed implantation into the prostate.

The Johns Hopkins' experience reflects poor outcome for men previously known to have a poor outcome with surgery - that is, men with P.S.A. greater than 10 and Gleason's scores of 7 or higher. Larger sized localized prostate cancer was not even attempted to be treated in this fashion.

Furthermore, many men are interested in avoiding invasive surgery with its associated convalescence and potential adverse impact on urinary continence and sexual function. That is the great incentive for innovative new methods of treatment such as prostate seed implantation.

Early data shows a highly desirable benefit to this approach and in fact, superior results when compared retrospectively to radical surgery. That should be of great appeal to men with any size or grade localized prostate cancer.

Addendum:

What is intriguing is as the years progress is that our data remains better both at five years and ten years. At ten years in the largest subgroup – those men having PSA of 4 to 10, the likelihood of being cancer-free is about 12 points greater for men undergoing our seed plus body radiosurgery program compared to Walsh's radical prostatectomy data.

Additionally, our patients avoid major surgery of radical prostatectomy, the convalescence and the known side effects including urinary and sexual dysfunction.

The data is more remarkable when, for example, at 8 years Gleason 8, 9 and 10 patients having radical prostatectomy have only a 27% cancer-free survival whereas nearly three times as many men are cancer-free in the same high-risk category if they only had chosen our seed plus body radiosurgery program. When we can't change the past, we can certainly continue to follow our data and encourage all men to be evaluated and learn the difference in treatment options and outcomes before make any decision.