Long Term Results *of* Surgery *for* Localized Prostate Cancer

Report From the 2010 American Urologic Association Convention

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At this year's meeting of the American Urologic Association there were 160 presentations on the management of localized prostate cancer. This review will deal with the role of surgery. Two long term follow-up studies were reported in men who were treated with radical prostatectomy. In one 30 year European study, the status of more than 5,000 men over the age of 65 was assessed. These patients had all stages and grades of disease and the median follow-up was 18.6 years. 24% of these men died as a result of prostate cancer. A PSA elevation occurred in 55%, usually within 5 years and most of these men were treated with some form of androgen depletion. Local recurrence was detected in 11% and distant metastases developed in 19%. This data indicates that PSA recurrence is common but with additional therapy following surgery, long-term survival, more than 15 years, was seen in 76%.

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European Long-Term Study of 5000 Men Receiving Radical Prostatectomy

- ❑ 18.6 years median followup
- ❑ PSA Rising in 55%, mostly within the first five years
- ❑ With additional therapy following surgery, long-term survival, more than 15 years, was seen in 76%.

To answer the question as to how long men with undetectable PSA need to be followed after surgery, investigators looked at PSA data over a 20 year period. In those who had only Gleason score 6 cancers that were confined to the prostate, less than 4% developed a rising PSA after 10 years and none developed a metastasis. However in men with Gleason scores of 7 or higher, 45% developed PSA recurrence after 10 years indicating that these men need to be followed indefinitely.

Gleason Score Predicts Recurrence 10 Year Followup

- ❑ Men with Gleason Score 6 – only 4% had PSA rising after 10 years
- ❑ Men with Gleason 7 or higher - 45% had PSA rising after 10 years and should be medically followed indefinitely.

Data was reviewed from eight European cancer centers in which men considered to be in the high-risk category for metastatic disease were treated with surgery. At the time of their surgery, their PSA's were more than 20, the cancer was felt to extend beyond the border of the prostate on digital rectal exam and their biopsy Gleason scores were 8-10. In spite of these adverse features, 20% had no evidence of cancer beyond the prostate, the surgical margins were free of cancer nor was there any cancer in the lymph nodes. This indicates that our ability to accurately assess the stage or extent of the cancer is often incorrect and there is a role for surgery in this category of patient particularly those with large prostates and men who are having severe difficulty urinating.

Men Diagnosed As High Risk Can Be Over-Staged

- ❏ High Risk is PSA>20, Stage T3, Gleason 8 - 10
- ❏ After surgery, 20% had no evidence of cancer beyond the prostate.

The role of an extensive lymph node removal was discussed in a number of presentations. There was a survival benefit in those with a Gleason score of 7 or higher, a PSA was greater than 10 and extensive disease was present in the prostate, 50% or more of the biopsy cores had cancer, if 20 or more lymph nodes were removed. Even men who had more than 50% of their biopsies showing Gleason score 6 also benefited from an extensive lymph node removal. In a comparison of extended lymph node dissection (20 or more lymph nodes) to a limited lymph node removal (less than 10 lymph nodes), cancer was found in 30% of those with the extended node removal while only 8% of those with a limited surgery had evidence of cancer. This means that the presence of cancer in the lymph nodes was not detected in the majority of men with moderate to high risk disease who had a limited lymph node removal. This was emphasized even more when the time to PSA recurrence was compared. Not only did fewer men have a PSA recurrence if they had a more extensive surgery but their recurrences occurred more than 5 years following surgery while those with a limited surgery had significantly more PSA recurrences and they occurred in less than 5 years.

High Risk Men Benefit From Lymph Node Removal

- ❏ High Risk is PSA>20, Stage T3, Gleason 8 - 10
- ❏ Limited benefit for low risk men with Gleason 6, PSA < 10

However, there seemed to be limited benefit for such an extensive lymph node removal in those with Gleason score 6 cancers and PSA's less than 10. The technique for doing the surgery, whether it is extensive or limited did not matter. The results were the same with the standard surgical method as compared to Robotic-assisted laparoscopic surgery. The difference between the extended and limited lymph node surgery is the longer time and more potential complications for the former.

More than 70% of all radical prostatectomy surgery is now being done with the aid of a Robot. Several presentations discussed the learning curve for this new technique. Completing the surgery in less than 3 hours required approximately 50-100 cases. The best cancer results were seen in those who had completed more than 200 cases and were already skilled in the standard open type of surgery. With the use of simulators, the learning curve was substantially shortened and these devices will be employed in the training of urologists. The shortest time to the recovery of continence and the return of erectile function was also related to experience. A number of new surgical techniques were presented which emphasize the continuing evolution taking place in surgery. Urologists who had performed more than 200 Robot assisted surgery had continence rates of nearly 90% at 3 months. This was similar to those surgeons who were equally skilled in the standard open type surgery. Similar findings were reported in regards to the return of erectile function. Experience matters.

Surgeon Experience Matters

The best cancer results were seen in those who had completed more than 200 cases and were already skilled in the standard open type of surgery.

A number of new techniques were reported which emphasize the continuing progress in the evolution of minimally invasive surgery. Experience with a "single-port" system in which only one incision is necessary and all of the instruments are introduced through that single incision, indicates that the results are comparable to the commonly employed method in the hands of experienced surgeons.

These presentations teach us that improvements in surgery are continuing and this has resulted in improved cancer outcomes and the reduction in the incidence of incontinence and erectile dysfunction. There is a role for surgery in all risk categories whether it is for "curative intent" or to remove the major portion of the cancer and use additional forms of therapy such as radiation and androgen depletion to control the disease.