

KIDNEY CANCER (at ASTRO)

Kidney cancers are one of the silent diseases that are often not diagnosed until they reach very untoward proportions. The kidneys are located deep into the abdominal area of the body and there is no generally early screening done for this type of cancer. This is in marked contrast to cancers of the breast, cervix and prostate. Some centers have started body scanning but this has not been fully recognized and is not usually reimbursed by most insurance plans. It remains a controversial approach.

Early signs of kidney cancer may include a palpable mass, pain or even blood in the urine. Blood in the urine can be an ominous sign and needs to be fully evaluated by physicians and urologists.

The ASTRO meetings are the largest radiation oncology meetings worldwide. This year, they were held in Salt Lake City, Utah and we were fortunate to be asked to present our data using fractionated stereotactic radiosurgery for the treatment of kidney cancer or renal cell carcinoma.

A physician might palpate a mass in the kidney and sometimes the patient may complain of pain or blood in the urine. Sometimes the blood is microscopic and cannot be seen by the naked eye. There are relationships of kidney cancer both with family history as well as smoking. This is another good reason to consider stop smoking now.

The usual treatment for kidney cancer is surgical removal of the cancer. This is true if the kidney cancer is localized or metastatic. In a recently published randomized study improvement was shown in survival for people with metastases, or spread of the cancer, to have the kidney removed.

Unfortunately, standard therapy such as chemotherapy or immunotherapy has relatively low durable success rates for the treatment of metastatic kidney cancer. Thus, the patient is often in a dilemma with a diagnosis that is difficult to make early and later on the cancer is difficult to successfully treat.

For that reason, we have instituted our technology of stereotactic fractionated body radiosurgery for the treatment of kidney cancer. We treated 141 kidney cancers with fractionated body radiosurgery. This included 114 metastases (beyond the kidney but not in the brain) and 27 primary cancers within the kidney. To the best of my knowledge this is the largest experience worldwide.

For patients whose cancer was confined to the kidney, the age range was from 31 to 85 years with a mean of 62 years. The volume of cancers treated within the kidney itself was 2.4cc to 1,366cc, with a mean of 367cc.

For cancers beyond the kidney but not in the brain, there were 114 cancers in patients' age 31 to 84 years, with a mean of 61 years. The volume of these extracranial metastases was 0.0165cc to 3,166cc, with a mean of 152cc.

Patients who were treated with hypofractionated stereotactic radiation doses received much larger than usual doses given usually on five occasions. The rationale of the larger dose was that radiobiologic principal showed us that there is better control rates using higher doses per fraction.

To many, kidney cancer is usually considered a cancer that is refractory to radiation. This is not untrue. Often kidney cancers, melanoma and sarcomas are considered radioresistant. The fact is using hypofractionated stereotactic radiation, we find these cancers are among the most radiosensitive cancers. This is likely due to radiobiologic principals, which show that with much higher doses the response rates are greater while lower doses have smaller response rates.

What is a success in the field of radiosurgery? Success means that the treated tumor stops growing, shrinks or disappears. Obviously, if a cancer were unsuccessfully treated, it would continue to grow. Thus, a really successful outcome means there is no further need for treatment in the treated field.

We ask treated patients to have check ups every three months and to send in their films – usually contrast-enhanced CT scans and/or MRIs on a three-month basis or sooner as appropriate.

Overall for all kidney cancers treated, our control rate is 92% with cessation of growth, shrinkage or disappearance. In the kidney itself, the control rate is 93% with follow-up of up to 45 months. Just for metastases outside the kidney and outside the brain, the control rate is 92% with the greatest follow-up at 53 months.

Tumors less than 40cc had a control rate of 97% whereas tumors greater than 40cc had a control rate of 87%. Statistical analysis proved this was significant. The P value was less than 0.05. Thus, patients with smaller tumors do slightly better – but overall 92% of all patients are successfully treated within the treated field. Our results are especially remarkable since most of our patients have had extensive prior treatment. Certainly, prior treatment doesn't preclude consideration for body radiosurgery.

This information should be important to those people who have kidney cancer or have family and friends with kidney cancer. Others may just be curious about advances in medical technology. Our intent is to continue following patients and pursuing fractionation and dose schema that best serves the patient.

We have seminars open to the public to discuss treatment options. We also have multi-disciplinary panels of physicians to review films, reports and medical history. We have a cancer hot line to answer questions: 212-CHOICES and as well have an e-mail address: gil.lederman@rsny.org.