ASTRO: Inoperable Primary Renal Cancer—Stereotactic Radiosurgery Viable Option

By Leah Lawrence [5]

A phase I study of the use of stereotactic radiosurgery as a therapeutic option for patients with localized, inoperable primary renal cancer showed that the treatment modality effectively stabilized or decreased disease in a large percentage of patients.

Data from the study were presented last week at the ASTRO Annual Meeting by Rodney J. Ellis, MD, of the University Hospitals Seidman Cancer Center, Cleveland, Ohio. Stereotactic radiosurgery is a state-of-the-art radiation treatment that delivers large doses of radiation each day for about three to four fractions of treatment. In this study, Ellis and colleagues examined the use of stereotactic radiosurgery in a group of 20 patients aged 58 to 92 years old with primary renal cancer who were poor surgical candidates and had received no prior pelvic or abdominal radiation.

“For these patients the standard of care would typically be surgery, but these particular patients could not tolerate surgery,” Ellis said. “That is what makes stereotactic radiosurgery, which is a painless treatment that avoids the need for patients to go to the operating room, a good option in these patients.”

The patients were part of a four-part dose escalation schema. All patients received an initial dose of 600 cGy per fraction with an escalation of 200 cGy per fraction to achieve 24 Gy, 32 Gy, and 48 Gy maximum doses. The decision to escalate the dose was made after patients showed nonprohibitive levels of toxicity within 180 days from the date of treatment. The researchers looked at post-treatment imaging and biopsy results to evaluate outcomes.

A tumor response rate was achieved in 94% of patients, which the researchers defined as stable or reduced tumor volume on post-treatment imaging. Acute toxicity occurred in two patients in the highest maximum dose group of 48 Gy—they experienced grade 1 fatigue. In addition, two patients had late toxicity in the form of worsening of pre-existing chronic renal disease. No gastrointestinal or other significant grade 3 toxicities occurred. Of those patients participating in post-treatment biopsy, 91% had incomplete or refractory disease, which the researchers said suggested the need for higher doses in subsequent studies.

“We started at very low doses and were doing a dose escalation trial, so we knew that many early patients would likely have a positive biopsy,” Ellis said. “Now that we are up to standard doses that are the same as what you would expect to see in stereotactic radiosurgery for lung cancer, we anticipate that many more of these patients are now going to have a negative biopsy.”

If that is the case, Ellis said, and researchers can reconfirm these results at another institution, stereotactic radiosurgery could become an available option for patients with primary renal cancer.
who are not candidates for surgery.
“In fact, there is potential that if it was reproduced in a multi-center trial, it could even move over to
patients who are surgical candidates who would prefer noninvasive treatment,” Ellis said.

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