

Short-Course Radiotherapy Limits T3 Prostate Ca

BY PATRICE WENDLING

CHICAGO — Delivery of a lower total radiation dose in fewer but more intense fractions improved control of high-risk prostate cancer without increasing toxicity in a multicenter, phase III trial of 168 men.

After a median follow-up of 3 years, the freedom from biochemical failure rate was 87% with hypofractionated radiotherapy vs. 79% with conventional radiation.

The difference in this co-primary end point was significant ($P = .035$).

In a multivariate Cox analysis, hypofractionated radiation therapy reduced the risk of biochemical failure by roughly 70% (hazard ratio 0.35), said lead author Dr. Giorgio Arcangeli, a radiation oncologist at the Regina Elena National Cancer Institute in Rome. Metastasis-free survival was similar in both groups.

Prostate cancer may be more sensitive than other tumors to higher daily doses of radiation, potentially allowing clinicians to complete radiation treatment in a shorter time.

Men in the hypofractionated arm received 62 Gy of radiation in 20 fractions of 3.1 Gy over 5 weeks, compared with 80 Gy of radiation in 40 fractions of 2 Gy over 8 weeks in the conventional arm.

New data suggest that prostate cancer may have a unique biology that makes it more sensitive than other tumors and normal tissue to higher daily doses of radiation, potentially allowing clinicians to complete radiation treatment in a shorter time.

Dr. Arcangeli acknowledged that longer follow-up is required to definitively validate this treatment strategy, but suggested there are important up-front benefits for patients.

"It offers convenience to patients by halving the number of visits to radiotherapy departments, an important benefit for these patients, who are typically an older, less mobile group," Dr. Arcangeli said.

The investigators hypothesized that the two treatment schedules would be equally effective because they have the same biological equivalent dose and same tumor control probability, but that late complications would be reduced with hypofractionation.

So far, no significant differences between the two groups have been observed in the other primary end point of late side effects in urinary and bowel function, Dr. Arcangeli said at the annual meeting of the American Society for Radiation Oncology, where the findings were presented.

Three-year rates of grade 2 or higher toxicity were 15% in the hypofractionation arm and 17% in the conven-

tional arm for gastrointestinal side effects, and 11% vs. 15% for genitourinary toxicity.

The severity of toxicity scores did not differ between groups, but acute toxicity in the hypofractionation arm developed and ended earlier than in the conventional arm, he said.

Men were eligible for the study if they had a prostate-specific antigen (PSA) level of more than 20 ng/mL, a Gleason

score of 7, T3 or higher disease, or at least two of the follow characteristics: Gleason score of 7, PSA level of 11-20 ng/mL, and T2c disease.

Overall, 83 men received hypofractionated and 85 men conventional fractionated schedules of 3-D conformal radiotherapy to the prostate and seminal vesicles, beginning 2 months after initiation of a 9-month course of total androgen blockade.

They had no distant metastases, previous pelvic irradiation, or previous prostate surgery other than transurethral resection of the prostate. Their median age was 75 years.

Studies are in progress to test the benefits of even shorter treatment schedules, Dr. Arcangeli commented in a statement.

The authors reported no conflicts of interest related to their study. ■



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References: 1. Rennard SI, Tashkin DP, McElhatten J, et al. Efficacy and tolerability of budesonide/formoterol in one hydrofluoroalkane pressurized metered-dose inhaler in patients with chronic obstructive pulmonary disease: results from a 1-year randomized controlled clinical trial. *Drugs*. 2009;69:549-565. 2. Data on File, 273071, AZPLP.

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