Duration of androgen suppression before radiotherapy for localized prostate cancer: radiation therapy oncology group randomized clinical trial 9910.


Abstract

**PURPOSE:** To determine whether prolonged androgen suppression (AS) duration before radiotherapy improves survival and disease control in prostate cancer.

**PATIENTS AND METHODS:** One thousand five hundred seventy-nine men with intermediate-risk prostate cancer were randomly assigned to 8 weeks of AS followed by radiotherapy with an additional 8 weeks of concurrent AS (16 weeks total) or to 28 weeks of AS followed by radiotherapy with an additional 8 weeks of AS (36 weeks total). The trial sought primarily to detect a 33% reduction in the hazard of prostate cancer death in the 28-week assignment. Time-to-event end points are reported for up to 10 years of follow-up.

There were no between-group differences in baseline characteristics of 1,489 eligible patients with follow-up. For the 8- and 28-week assignments, 10-year disease-specific survival rates were 95% (95% CI, 93.3% to 97.0%) and 96% (95% CI, 94.6% to 98.0%; hazard ratio [HR], 0.81; P = .45), respectively, and 10-year overall survival rates were 66% (95% CI, 62.0% to 69.9%) and 67% (95% CI, 63.0% to 70.8%; HR, 0.95; P = .62), respectively. For the 8- and 28-week assignments, 10-year cumulative incidences of locoregional progression were 6% (95% CI, 4.3% to 8.0%) and 4% (95% CI, 2.5% to 5.7%; HR, 0.65; P = .62), respectively; 10-year distant metastasis cumulative incidences were 6% (95% CI, 4.0% to 7.7%) and 6% (95% CI, 4.0% to 7.6%; HR, 1.07; P = .80), respectively; and 10-year prostate-specific antigen-based recurrence cumulative incidences were 27% (95% CI, 23.1% to 29.8%) and 27% (95% CI, 23.4% to 30.3%; HR, 0.97; P = .77), respectively.

**CONCLUSION:** Extending AS duration from 8 weeks to 28 weeks before radiotherapy did not improve outcomes. A lower than expected prostate cancer death rate reduced ability to detect a between-group difference in disease-specific survival. The schedule of 8 weeks of AS before radiotherapy plus 8 weeks of AS during radiotherapy remains a standard of care in intermediate-risk prostate cancer.

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