Long-Term Follow-up of a Large Active Surveillance Cohort of Patients with Prostate Cancer


Odette Cancer Centre, Sunnybrook Health Sciences Centre, University of Toronto, Toronto, Ontario, Canada


PURPOSE: Active surveillance is increasingly accepted as a treatment option for favorable-risk prostate cancer. Long-term follow-up has been lacking. In this study, we report the long-term outcome of a large active surveillance protocol in men with favorable-risk prostate cancer.

PATIENTS AND METHODS: In a prospective single-arm cohort study carried out at a single academic health sciences center, 993 men with favorable- or intermediate-risk prostate cancer were managed with an initial expectant approach. Intervention was offered for a prostate-specific antigen (PSA) doubling time of less than 3 years, Gleason score progression, or unequivocal clinical progression. Main outcome measures were overall and disease-specific survival, rate of treatment, and PSA failure rate in the treated patients.

RESULTS: Among the 819 survivors, the median follow-up time from the first biopsy is 6.4 years (range, 0.2 to 19.8 years). One hundred forty-nine (15%) of 993 patients died, and 844 patients are alive (censored rate, 85.0%). There were 15 deaths (1.5%) from prostate cancer. The 10- and 15-year actuarial cause-specific survival rates were 98.1% and 94.3%, respectively. An additional 13 patients (1.3%) developed metastatic disease and are alive with confirmed metastases (n = 9) or have died of other causes (n = 4). At 5, 10, and 15 years, 75.7%, 63.5%, and 55.0% of patients remained untreated and on surveillance. The cumulative hazard ratio for nonprostate-to-prostate cancer mortality was 9.2:1.

CONCLUSION: Active surveillance for favorable-risk prostate cancer is feasible and seems safe in the 15-year time frame. In our cohort, 2.8% of patients have developed metastatic disease, and 1.5% have died of prostate cancer. This mortality rate is consistent with expected mortality in favorable-risk patients managed with initial definitive intervention.