Long-term risk of clinical progression after biochemical recurrence following radical prostatectomy: the impact of time from surgery to recurrence.

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Abstract

BACKGROUND: The natural history of biochemical recurrence (BCR) after radical retropubic prostatectomy (RRP) is variable and does not always translate into systemic progression or prostate cancer (PCa) death.

OBJECTIVE: To evaluate long-term clinical outcomes of patients with BCR and to determine predictors of disease progression and mortality in these men.

DESIGN, SETTING, AND PARTICIPANTS: We reviewed our institutional registry of 14,632 patients who underwent RRP between 1990 and 2006 to identify 2,426 men with BCR (prostate-specific antigen [PSA] levels ≥ 0.4 ng/ml) who did not receive neoadjuvant or adjuvant therapy. Median follow-up was 11.5 yr after RRP and 6.6 yr after BCR.

INTERVENTION: RRP.

MEASUREMENTS: Patients were grouped into quartiles according to time from RRP to BCR. Survival after BCR was estimated using the Kaplan-Meier method and compared using the log-rank test. Cox proportional hazard regression models were used to analyze clinicopathologic variables associated with systemic progression and death from PCa.

RESULTS AND LIMITATIONS: Median systemic progression-free survival (PFS) and cancer-specific survival (CSS) had not been reached after 15 yr of follow-up after BCR. Cancer-specific mortality 10 yr after BCR was 9.9%, 9.3%, 7.8%, and 4.7% for patients who experienced BCR <1.2 yr, 1.2-3.1 yr, 3.1-5.9 yr, and >5.9 yr after RRP, respectively (p=0.10). On multivariate analysis, time from RRP to BCR was not significantly associated with the risk of systemic progression (p=0.50) or cancer-specific mortality (p=0.81). Older patient age, increased pathologic Gleason score, advanced tumor stage, and rapid PSA doubling time (DT) predicted systemic progression and death from PCa. Limitations included retrospective design, varied utilization of salvage therapies, and the inclusion of few patients with positive lymph nodes.

CONCLUSIONS: Only a minority of men experience systemic progression and death from PCa following BCR. The decision to institute secondary therapies must balance the risk of disease progression with the cost and morbidity of treatment, independent of time from RRP to BCR.

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