Prognostic Factors for Biochemical Recurrence More than Ten Years after Radical Prostatectomy.

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Abstract

PURPOSE: Some patients with long postoperative intervals of undetectable prostate-specific antigen (PSA) are still at risk of biochemical recurrence (BCR). Aim was to identify prognostic factors for late BCR (including cancer family history) and evaluate cancer-specific mortality.

MATERIALS AND METHODS: 10,310 patients after radical prostatectomy without neo-/adjuvant therapy between 1979 and 2015 were identified from the German prospective database "familial prostate cancer". A subgroup of patients with follow-up > 10 years with undetectable PSA (median follow-up was 12.8 years) was identified (n = 2,480). BCR (PSA ≥0.2 ng/ml) occurring > 10 years was defined as late BCR. Multiple proportional hazards regression with forward selection was applied to determine prognostic factors for late BCR.

RESULTS: Kaplan-Meier estimates of BCR at 10, 15 and 20 years were 34.3%, 44.0% and 52.7%, respectively. 249 out of 2,480 patients with undetectable PSA ten years postoperatively had subsequent BCR. The factors associated with late BCR were age at surgery (per year: HR 1.04, p=0.027), PSA at diagnosis (per ng/ml: HR 1.02, p=0.020), pGleason score (categorical 2-6 vs. 7(3+4), 7, 7(4+3) and 8-10, p=0.002) and ptumor stage ≥pT3a (HR 1.50, p=0.065).

CONCLUSIONS: From the 10th to 15th and 10th to 20th year postoperatively, BCR-rate increased by 9.7 and 18.4 percentage points. In contrast to family history of prostate cancer, age at surgery, PSA at diagnosis, ptumor stage and pGleason score are prognostic factors for late BCR. Patients with late BCR are still at risk of dying from prostate cancer.

Keywords: biochemical recurrence; cancer-specific mortality; long-term; prostate cancer; radical prostatectomy

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