

## Prognostic value of tumor positive resection margin, rapid biochemical relapse and fast disease progression in low-risk prostate cancer following radical prostatectomy: A long-term follow up

European Urology Supplements 2019;18(3):e2448

Peciulyte G.<sup>1</sup>, Venclovas Z.<sup>1</sup>, Zemaitis L.<sup>2</sup>, Milonas D.<sup>1</sup>

<sup>1</sup>Lithuanian University of Health Sciences, Dept. of Urology, Kaunas, Lithuania, <sup>2</sup>Klaipeda University Hospital, Dept. of Urology, Klaipeda, Lithuania

**Introduction & Objectives:** To evaluate prognostic impact of tumour positive resection margin, rapid PSA relapse and quick disease progression leading to bone metastasis in men with low-risk prostate cancer (PCa) afterwards radical prostatectomy (RP) is performed.

**Materials & Methods:** The retrospective study was carried out in Lithuania over a 18-year period. It included 245 men (median age 65 y/o) with low-risk PCa afterwards they underwent RP as an initial treatment. There was a biochemical (PSA) relapse in 16,74% (N=41) of men. Men with metastatic progression accounted for 2.9% (N=7). The data processed using MS Excel 2017 and IBM SPSS Statistics 25.0.0.0 software. Chi-square Test was used to compare study groups, Log Rank (Mantel-Cox) and was used to compare were mainly used for statistical data evaluation. Kaplan-Meier estimator was used for estimation of survival function from lifetime data.

**Results:** Odds ratio for PSA relapse was 6.443 (95% CI 3.087-13.447) if tumor positive resection margin would be presented. Mean time until PSA relapse was 90 months (SD=3.313). Mean time until PSA relapse was 90 months (SD=3.374, 95% CI 84-97) in Group 1 and 73 months (SD=15.039, 95% CI 44-103) in Group 2. Log Rank revealed no significant difference in the period of time until biochemical recurrence comparing Group 1 and Group 2 ( $\chi^2=1.945$ ,  $p=0.163$ ). Following RP (performed from 2001 to 2007), mean time until development of metastases (MTS) was 114 months (95% CI 108-120) among men alive, 72 months (95% CI 60-85) among the ones deceased due to non-PCa pathology and 75 months (95% CI 47-104) among the ones deceased due to PCa. Log Rank showed that mean time until MTS occurrence took longer among men who are still alive than those who died due to non-PCa specific or PCa related death ( $\chi^2=34.693$ ,  $p=0.000$ ). The relative risk of MTS development was 2.5 higher (HR 2.5, 95% CI 1.8-3.6,  $p=0.000$ ) among non-PCA specific mortality group and 2.9 (HR 2.9, 95% CI 1.3-6.6,  $p=0.011$ ) higher in PCa specific mortality group than in alive men group.

**Conclusions:** Tumor positive resection margin increases probability of biochemical recurrence by 6.443 times. Interestingly, rapid onset of biochemical recurrence does not predict overall survival outcomes in low-risk PCa. At least 37% faster mean time until disease progression appears among men who, due to various reasons, survive not more than 10 years following radical prostatectomy. At least 2.5 times higher relative risk for disease progression is associated with overall and cancer-specific survival less than 10 years.