P063 Relative telomere length is associated with mortality in prostate cancer patients

EUR Urol Suppl 2019;18(11):e3488

Langsenlehner T., Lukasiak K., Gruber H-J., Hermann M., Langsenlehner U., Renner W.

Medical University of Graz, Dept. of Therapeutic Radiology and Oncology, Graz, Austria

Introduction & Objectives: Telomeres are essential for the maintenance of chromosomal integrity and telomere length has been associated with cancer risk and development. Aim of the present study was to analyze the prognostic value of leukocyte relative telomere (RTL) length for long-term prostate cancer (PCa) mortality.

Materials & Methods: RTL of peripheral blood leukocytes was determined by a quantitative polymerase chain reaction method in 533 patients with PCa treated with radiotherapy. Blood samples of PCa patients were obtained before initiation of radiotherapy. Main outcome was overall mortality, second endpoint was cancer-specific mortality.

Results: During a median follow-up time of 149 months, 188 (35.3%) patients died. In a univariate Cox regression analysis, RTL quartiles (longer RTL) were significantly associated with higher overall mortality (HR 1.20; 95% CI 1.05 - 1.36; p = 0.006). In a multivariate Cox regression model including age at diagnosis, androgen deprivation therapy, and risk group (based on PSA level, GS, and T stage), RTL quartiles remained a significant predictor of higher overall mortality (HR 1.22; 95% CI 1.07 - 1.39; p = 0.003). In 58 patients, PCa specific death could be validated. In univariate Cox regression analysis, a similar association of RTL quartiles with cancer-specific mortality was detected (HR 1.19, 95%CI 1.02 - 1.39; p=0.028). In multivariate analysis, the association between RTL quartiles and cancer-specific mortality remained statistically significant (HR 1.23, 95%CI 1.05-1.45; p=0.012).

Conclusions: Longer leukocyte RTL predicts higher mortality in patients with PCa.