

Martha O. , Balan D., Dragus E. , Ghirca V. , Vartolomei M.D. , Vida A.O.

University of Medicine, Pharmacy, Sciences and Technology of Tagu Mures, Dept. of Urology, Targu Mures, Romania

**Introduction & Objectives:** The inflammatory response surrounding the tumour has a major importance in the oncologic outcome of bladder cancers. One marker proved to be useful and accessible is neutrophil-to-lymphocyte ratio. The objective of the study was the analysis of neutrophil-to-lymphocyte ratio as a prognostic factor for recurrence and progression of low-risk pTa bladder cancer.

**Materials & Methods:** We retrospectively selected 54 patients with pTa bladder cancer, that underwent transurethral resection of bladder tumor between January 2007 and December 2008. Inclusion criteria were: primary tumor, low-grade, with neutrophil-to-lymphocyte ratio prior to transurethral resection.

**Results:** Most of the patients had neutrophil-to-lymphocyte ratio < 3 (37 patients). In total 8/54 (14,81 %) patients presented recurrence and 2/54 (3,70 %) patients were identified with T2 or higher stage progression during the follow-up period. Progression-free survival Kaplan-Meier analysis showed a lower progression-free survival in the neutrophil-to-lymphocyte ratio > 3 group: 94.12% vs. 100%, p=0.04. Recurrence-free survival Kaplan-Meier analysis did not show a statistical significance between neutrophil-to-lymphocyte ratio groups: 82.67% vs. 64.12%, p=0.26. However, in multivariable Cox regression analyses showed that neutrophil-to-lymphocyte ratio as a continuous variable was an independent prognostic factor for recurrence-free survival. Kaplan-Meier overall survival curve showed a 10-year overall survival of 70.27% in the low neutrophil-to-lymphocyte ratio group compared with 58.82% in the high neutrophil-to-lymphocyte ratio group, p=0.45.

**Conclusions:** In this cohort, high neutrophil-to-lymphocyte ratio retained a statistically significant value, as an independent prognostic factor for bad prognosis of Ta bladder tumors. In low-risk non-muscle invasive bladder cancer neutrophil-to-lymphocyte ratio could represent a reliable biomarker for clinical decision making regarding the follow-up schedule.