Role of N-ratio in Clinical and Pathological Characterization of Rectal Cancer Patients in Surgical Oncology Clinic of Riga Eastern University Hospital

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Introduction. The total number of harvested and evaluated lymph nodes in pathological specimen is significant independent prognostic factor in gastrointestinal cancers. The lymph nodes ratio (N-ratio) probably is a relevant parameter in cases when the number of evaluated lymph nodes in specimen is not sufficient. Prognostic value of lymph node ratio in radically surgically treated rectal cancer patients is still under investigation.

Aim. The aim of this study is to evaluate the effectiveness of N-ratio as a prognostic factor in Stage III and IV (N+) rectal cancer. In this study N-ratio and its correlation to T-stage (independent factor of disease severity) has been analysed in patients with rectal cancer after adequate and inadequate lymphatic dissection.

Material and Methods. Clinicopathological data of 82 patients (45 males and 37 females, mean age – 69.5 years) after radical surgical treatment was analysed as part of this study, due to rectal cancer at RAKUS LOC in time period between 01.01.13. and 01.01.14. Six patients had NX, 54 patients had no metastatic lymph nodes (N0) and were excluded from correlation analysis, 21 patient presented with metastatic lymph nodes (N+) were divided into two categories based on the number of evaluated lymphnodes: I group > 12 lymph nodes were inspected (15 patients); II group < 12 lymph nodes were inspected (6 patients). The data were analysed with IBM SPSS statistics 19.0 program.

Results. Mean number of harvested lymph nodes in all 82 patients – 7; mean number of metastatic lymph nodes – 0.8. Low positive correlation was proven between the amount of extracted lymph nodes and metastatic lymph nodes (Spearman correlation 0.398, p – 0.000257). Low positive correlation was detected between N-ratio and T-stage in all N+ patients (Spearman correlation – 0.33, p – 0.144). No positive correlation between N-ratio and T-stage was proven in patient sub-categories.

Conclusion. According to this study, it is impossible to evaluate the effectiveness of N-ratio as prognostic factors because no statically significant (p > 0.05) correlation was proven, possibly due to insufficient number of N+ patients (21 patients). Total amount of harvested lymph nodes has independent positive correlation to number of metastatic lymph-nodes that leads to a more accurate staging and adequate further treatment.