

Clinical Value of Hematological Biomarkers in Uterine Cervical Cancer

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Abstract

Certain combinations of the hematological components, specifically, neutrophils and lymphocytes, named neutrophil to lymphocyte ratio (NLR) or multiplication of neutrophil and monocyte (MNM) have been shown to have prognostic value in a variety of cancers.

Material and methods: Retrospective study which included 133 patients with uterine cervical cancer with or without neoadjuvant therapy based on prognostic factors and correlations between NLR and MNM values, markers that were analyzed as continuous variables. This study aimed to establish the critical value of hematological markers.

Results: NLR is significantly lower for preoperative stages I and II ($p = 0.0004$). There is a significant association between NLR and lymph node metastasis ($p = 0.016$), parametrial invasion ($p = 0.035$), lymphovascular space invasion ($p = 0.0151$) and tumor size ($p = 0.0017$). Correlational analysis showed that there is a significant association between MNM and lymph node metastasis ($p = 0.020$), parametrial invasion ($p = 0.00010$), lymphovascular space invasion materially affecting the value MNM ($p = 0.0018$), tumor size more than 4 cm ($p = 0.0314$). NLR and MNM were significantly lower in patients with complete response to neoadjuvant treatment.

Discussion: The results of this study outlines the importance of hematological panel and parameters that can be easily used at no extra cost to establish further evolution of patients to treatment.

Key words: uterine cervical cancer, neutrophil to lymphocyte ratio, multiplication of neutrophil and monocyte