

Evaluation of the diagnostic values of complete blood count-based inflammatory markers in women with urinary tract infection

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ABSTRACT

Introduction: The high cost and time-consuming of urine culture as the standard diagnostic method consider the need for identifying new diagnostic markers. The aim of this study was to evaluate the diagnostic values of complete blood count-based inflammatory markers in patients with urinary tract infection.

Methods: In this case-control study, 95 patient in the case group and 40 healthy individuals in the control group were studied. A questionnaire was used. In medical laboratory a blood sample was taken from each subject to assess the complete and differential white blood cell count, and other hematological parameters. Then, neutrophil to lymphocyte ratio (NLR), neutrophil to monocyte ratio (NMR), and platelet to lymphocyte ratio (PLR) were determined. The relationship between variables was determined by using the correlation analysis. The diagnostic values were analyzed by ROC procedures.

Results: In this study, in patients mean age was 40.62 ± 7.73 and in healthy subjects was 38.25 ± 6.91 . Leukocyte count, the number of neutrophils and monocytes were significantly different between the two groups but insignificant difference was observed in the number of lymphocytes and platelets. The NLR and PLR values showed a significant increase compared to the control group but there was no significant difference between the two groups in terms of NMR. In addition, the NLR and NMR were significantly correlated with WBC count but no significant relationship was observed between PLR and WBC count.

Conclusion: The finding showed that the neutrophil-to-lymphocyte ratio and platelet-to-lymphocyte ratio tests have low sensitivity and specificity as inflammatory markers in the diagnosis of urinary tract infection despite the observed significant differences.

Key words: Inflammation" lymphocyte" Monocyte" Neutrophil" Platelet" Urinary Tract Infection

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