ABSTRACT

Correlation of Neutrophil-Lymphocyte Ratio in Colorectal Cancer Patients

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Background : *Although progress in diagnostic methods and the management of colorectal cancer is rapid, mortality remains high. Early diagnosis and appropriate treatment planning are key to reducing the mortality rate of colorectal cancer. New parameters are needed that are informative enough to help early diagnosis and provide direction to the choice for therapeutic modalities. There are currently theories that suggest a possible link between inflammation and malignancy, including colorectal cancer. The Neutrophil-Lymphocyte ratio is one of the inflammatory parameters that can be used to evaluate the progression of colorectal cancer. The Neutrophil-Lymphocyte ratio is a simple examination that has been tested as a predictive parameter for stadium in some types of malignancy. But, the correlation of neutrophil-lymphocyte ratio and colorectal cancer stadium is still unclear.*

Objective : *To determine the correlation of neutrophil-lymphocyte ratio and colorectal cancer stadium.*

Methods : *Cross-Sectional study in colorectal cancer patients with total sampling and using a retrospective approach, in the period of January 2013 to October 2016. Neutrophil-lymphocyte ratio is calculated by dividing the numbers of absolute neutrophil count by the numbers of absolute lymphocyte count obtained from the data of complete blood examination on the patient's medical records. Colorectal cancer stages are evaluated based on surgical report data, imaging examination results and Histopathology examination results in patient medical records. The Spearman correlation test is used to analyse the statistic correlation of neutrophil-lymphocyte ratio and colorectal cancer stadium.*

Results : *The total number of subjects was 173 patients.Spearman correlation test showed statisticaly significant correlation of neutrophil-lymphocyte ratio and colorectal cancer stadium but with weak correlation strength (rs = 0,20; p<0,05).*

Conclusion : *In this study, although there was a statistically significant correlation between the Neutrophil-Lymphocyte Ratio and the stage of colorectal cancer, but the correlation strength was weak, so the Neutrophil-Lymphocyte Ratio could not be used as a main predictive parameter for the stage of colorectal cancer based on AJCC criteria.*

Keywords : *neutrophil-lymphocyte ratio, colorectal cancer stadium.*