

Systemic Neutrophil-to-Lymphocyte Ratio as a Prognostic Biomarker for Colon Cancer

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Abstract

Background and aim: Prior research linked a high preoperative neutrophil-to-lymphocyte ratio (NLR) to a worse prognosis in individuals with a variety of malignancies. This study aimed to establish the prognostic and predictive usefulness of preoperative NLR in colorectal cancer (CRC) patients and to identify an appropriate cut-off value for the NLR.

Methods: We enrolled a total of 195 patients that underwent surgery for stage II and III colo-rectal cancer that required adjuvant chemotherapy as well as stage IV colorectal cancer patients treated with palliative intent. The mean NLR value was 3.42 ± 2.27 . We used a receiver operating characteristic curve to estimate the optimum NLR cut-off value at 3. Patients with a NLR value above 3 were classified as high-NLR, while patients with a NLR below 3 were classified as low-NLR;

Results: Overall survival (OS) and progression-free survival (PFS) were significantly reduced in high-NLR patients. The overall response rate (ORR) was also lower in high-NLR patients.

Conclusions: Preoperative NLR is an accessible measurement that seems to have prognostic and predictive value in patients with colorectal cancer.

Key words: neutrophil-to-lymphocyte ratio; colon cancer; biomarker