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Immunoscore as a Predictor of Disease Recurrences and Patients' Survival in Colon Cancer: A Clinicopathologic Study

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Abstract

Background: For years, the American Joint Committee of Cancer/International Union against Cancer TNM staging system was the only accepted staging system for colorectal cancer. Different studies highlighted limitations in this staging system with the need to another staging approach that takes into consideration the individual patient immune response. Recently, the immunoscore was introduced; however, no accurate data regarding its sensitivity and specificity over the routinely used TNM staging system.

Aim: We aimed to provide definite sensitivity, septicity, and predictive values for both IS and TNM staging system in prognosis prediction, as evidence-based statistical documentation of its validity to clinical use.

Methods: Fifty-three slides of colon cancer cases were stained for CD3 and CD8 immunohistochemical stains. The density of the stained cells was measured used an image analysis system in the core of the tumor and invasive margin. Immunoscore was calculated and results were compared with TNM in the recurrence-free survival of the patients. The sensitivity and specificity for each test were calculated.

Results: High IS was correlated with a good prognosis in the studied cases. IS sensitivity reached 85.7% compared to 28.6% in TNM staging system and the specificity was 78.1% compared to 37.5% in TNM system.

Conclusion: IS is a promising prognostic estimation tool in colon cancer with better sensitivity and specificity than TNM staging system. The routine use of IS is now becoming a mandatory step.