THE PROGNOSTIC ROLE OF EGFR AND VEGF IN COLORECTAL CANCER RECURRENCE

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Aim:

To evaluate whether the expression levels of epidermal growth factor receptor (EGFR) and vascular endothelial growth factor (VEGF) can predict recurrence in colorectal cancer patients, thereby aiding personalized treatment strategies.

Materials and Methods:

This retrospective study analyzed tissue samples from 103 colorectal cancer patients treated at the Russian Scientific and Practical Center of Oncology and Radiology between 2016 and 2022. Immunohistochemical staining assessed EGFR and VEGF expression, with positivity defined as over 10% tumor cell staining, evaluated by blinded pathologists. Data on clinical parameters and recurrence were collected, and statistical analysis included chi-square/Fisher's tests and odds ratio calculation using SPSS software.

Results:

Significant differences in receptor expression were observed between patients with and without recurrence. EGFR positivity was present in 74.5% of relapsed patients versus 52.1% in non-relapsed cases ($p=0.018$). VEGF positivity was found in 80% of relapsed patients versus 50% of controls ($p=0.001$). Negative receptor status was associated with a markedly lower risk of recurrence, with odds ratios of 2.694 for EGFR and 4.000 for VEGF.

Conclusions:

EGFR and VEGF overexpression are strongly associated with higher risk of colorectal cancer recurrence. These markers could serve as valuable prognostic indicators and therapeutic targets, supporting the development of personalized treatment approaches to improve patient outcomes. Further studies are warranted to validate these findings and optimize clinical application.