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Identification of Predictive Factors for Pathologic Complete Response in Rectal Cancer Patients Undergoing Neoadjuvant Treatment: A Retrospective Study

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Abstract

Background: Colorectal cancer is a serious illness, with rectal cancer accounting for thirty percent of all cases. For patients diagnosed with rectal cancer, neoadjuvant downstaging chemoradiotherapy is often necessary due to advanced disease at presentation. However, for certain patients, neoadjuvant chemotherapy can result in a complete response, leading to the possibility of overtreatment during subsequent definitive surgery.

Methods: In order to identify predictors for clinical or pathologic complete response, we conducted a retrospective study on 231 patients diagnosed with locally advanced rectal cancer who underwent neoadjuvant treatment.

Results: Our results indicate that tumor characteristics remain the primary predictive factors for treatment response in rectal cancer patients. Specifically, we found that a complete pathologic response was more likely in patients with stage I/II disease compared to stage III/IV. However, we did not identify any statistically significant associations between radiotherapy characteristics (such as fractionation, treatment technique or total dose) and complete response rates.

Conclusions: In conclusion, our study highlights the importance of tumor stage in predicting pathologic complete response following neoadjuvant chemoradiotherapy for rectal cancer patients. Other clinical and pathologic factors, such as tumor size, may also be important predictors of treatment response and should be explored in future studies.

Key words: colorectal cancer, complete response, neoadjuvant therapy, radiotherapy, surgery