

Predictors of sensitivity to preoperative chemoradiotherapy of rectal adenocarcinoma

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ABSTRACT

Objectives. The purpose of the study was to identify predictive factors of tumor response to preoperative chemoradiotherapy for rectal adenocarcinoma.

Methods. Ninety-eight patients with nonmetastatic rectal adenocarcinoma received preoperative concurrent chemoradiotherapy and underwent mesorectal excision. After treatment, tumor response according to tumor regression grade were evaluated. The correlation of clinicopathologic factors to tumor response was analyzed.

Results. The results from a univariate analysis indicated that pretreatment carcinoembryonic antigen level ≤ 3.0 ng/ml ($P = 0.002$), non-fixed tumor ($P = 0.001$), and tumor circumferential extent $\leq 50\%$ ($P = 0.001$) were associated significantly with a good tumor response. They also indicated that pretreatment positive lymph nodes ($P = 0.032$) were associated significantly with a poor tumor response. In multivariate analysis, the results indicated that pretreatment carcinoembryonic antigen level (hazard ratio, 2.930; $P = 0.003$), tumor mobility (hazard ratio, 2.651; $P = 0.002$) and circumferential extent of tumor (hazard ratio, 2.394; $P = 0.019$) independently predicted a good pathologic response rate. Pretreatment positive lymph nodes were not significantly associated with a good response (hazard ratio, 0.361; $P = 0.191$).

Conclusions. Pretreatment carcinoembryonic antigen level, tumor mobility and circumferential extent of tumor may be helpful in predicting responsiveness in rectal adenocarcinoma to preoperative chemoradiotherapy, although the results should be confirmed in larger, more homogeneous studies.

Key words: preoperative chemoradiation, rectal cancer, tumor response.

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