

The prognostic impact of positive lymph node number in stage III rectal cancer patients treated with surgery followed by radiochemotherapy

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Background: To investigate the prognostic impact of positive lymph node number (LNN) on disease-free survival in stage III rectal cancer patients.

Material and methods: We retrospectively reviewed the data of 273 consecutive patients who received surgery and 5-FU based postoperative radiochemotherapy for stage III rectal cancer from 1999 to 2004. Lymph node status was evaluated as total number of lymph nodes examined (TLN), positive LNN, and lymph node ratio (LNR). Positive LNN was divided into LNN1 (1-3 nodes), LLN2 (4-7 nodes), and LLN3 (≥ 8 nodes). LNR was categorized into three groups, LNR1 to 3, according to cutoff points 0.2 and 0.5. The relationships between survival and clinicopathologic variables, including lymph node status were analyzed.

Results: The median values of TLN, positive LNN, and LNR were 17, 3, and 0.2, respectively. After a median follow-up of 55 months (range, 6-110 months), the disease-free survival, loco-regional failure-free survival, and distant metastasis-free survival were 54.6%, 81.7%, and 58.1%, respectively. In multivariate analysis, LNN was a significant prognostic factor for disease-free survival ($p=0.01$), whereas TLN, LNR, pathologic tumor stage, patient's age, gender, sequence of radiochemotherapy (chemotherapy prior to postoperative radiochemotherapy vs. immediate postoperative radiochemotherapy) were not. In patients with LNN3 showed a significant lower disease-free survival rate at 5-years than in patients with LNN2 (28.3% vs. 50.5%, $p=0.01$), or patients with LNN1 (28.3% vs. 63.2%, $p<0.001$).

Conclusions: Positive lymph node number was the most significant prognostic factor for the disease-free survival in stage III rectal cancer patients who had treated with surgery and postoperative radiochemotherapy.