

Prognostic and predict value of metastatic lymph node ratio in stage III gastric cancer after D2 nodal dissection

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PURPOSE: The aim of this study was to evaluate the prognostic impact of metastatic lymph node ratio (MLR) in stage III gastric cancer following radical D2 dissection, and to assess the value of MLR for adjuvant chemotherapy.

METHODS: A total of 87 patients who underwent radical resection with D2 lymphadenectomy between December 2010 and March 2014 was retrospectively reviewed in this study. Indexes of lymph nodes involvement and other clinicopathological data were analyzed. Survival was determined by Kaplan-Meier method and survival curves were assessed by log-rank test. Multivariate analysis was performed using the Cox proportional hazards model.

RESULTS: The median age of patients was 60y (range:21 to 83) with a male to female ratio of 2. 83 patients have undergone total gastrectomy (95.4%) and 4 subtotal gastrectomy (4.6%). 57 patients received chemotherapy and all chemotherapy regimens have contained Fluoropyrimidines (5-FU or capecitabine). There were only 5 patients received single-agent 5-FU or capecitabine as chemotherapy regimen, while 52 patients received combined-chemotherapy. The median total retrieved lymph node was 35 (range:10 to 104) and the median metastatic lymph nodes was 8 (range: 0 to 71). The median survival time of the entire cohort was 31.7 months and 3-year survival rates were 36.4%, respectively. MLR was classified into 4 groups as follows: MLR0:0, MLR1:<0.1, MLR2:0.1-0.25, MLR3:>0.25. After a median follow-up of 31 months, the median OS of MLR0 to MLR3 was 37.1m, 35.9m, 31.5m and 20.8m, respectively (p=0.013). The median OS was significantly different in subgroups: 39.3m in low group (MLR<0.24) with adjuvant chemotherapy, 36.5m in low group without chemotherapy, 22.9m in high group (MLR>0.24) with chemotherapy and 12.2m in high group without chemotherapy (p=0.002). The MLR was retained as an independent prognostic factor in multivariable analysis.

CONCLUSIONS: After R0 resection with D2 lymphadenectomy for stage III gastric cancer, MLR can be an effective and prognostic indicator. Patients with high MLR may benefit most from adjuvant chemotherapy.