Factors Associated With Recurrence and Survival in Lymph Node-negative Gastric Adenocarcinoma

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Objectives: To determine pathologic features associated with recurrence and survival in patients with lymph node–negative gastric adenocarcinoma.

Study Design: Multi-institutional retrospective analysis.

Background: Lymph node status is among the most important predictors of recurrence after gastrectomy for gastric adenocarcinoma. Pathologic features predictive of recurrence in patients with node-negative disease are less well established.

Methods: Patients who underwent curative resection for gastric adenocarcinoma between 2000 and 2012 from 7 institutions of the US Gastric Cancer Collaborative were analyzed, excluding 30-day mortalities and stage IV disease. Competing risks regression and multivariate Cox regression were used to determine pathologic and locoregional features associated with time to recurrence and overall survival. Differences in cumulative incidence of recurrence were assessed using the Gray method (for univariate nonparametric analyses) and the Fine and Gray method (for multivariate analyses) and shown as subhazard ratios (SHRs) and adjusted subhazard ratios (aSHRs), respectively.

Results: Of 805 patients who met inclusion criteria, 317 (39%) had node-negative disease, of which 54 (17%) recurred. By 2 and 5 years, 66% and 88% of patients, respectively, experienced recurrence. On multivariate competing risks regression, only T-stage 3 or higher was associated with shorter time to recurrence (aSHR = 1.7; 95% confidence interval, 1.5–2.2). Multivariate Cox regression showed T-stage 3 or higher to be associated with decreased survival (HR = 1.8; 95% CI, 1.2–2.8), lymphovascular invasion (HR = 2.2; 95% CI, 1.4–3.4), and signet ring histology (HR = 2.1; 95% CI, 1.2–3.6) to be associated with decreased overall survival.

Conclusions: Despite absence of lymph node involvement, patients with T-stage 3 or higher have a significantly shorter time to recurrence.

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