

Multiinstitutional Randomized Clinical Trial on the Effect of Splenectomy in Advanced Gastric Cancer

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Background: Combined resection of the spleen during total gastrectomy for gastric cancer is usually performed to remove the lymph node adequately and thereby achieving surgical radicality. We performed this study to evaluate the role of splenectomy in potentially curative total gastrectomy in terms of survival benefit and postoperative morbidity.

Methods: Between January 1995 and June 2003, 212 patients were registered in a prospective multi-institutional randomized trial, which included total gastrectomy either with splenectomy or without splenectomy. Information was collected on general characteristics, clinicopathologic data, surgical factors, and follow-up. Median follow-up duration was 40 months. Endpoints of this study were postoperative survival and operative morbidity, which were estimated by Kaplan-Meier method in both the intention-to-treatment (ITT) analysis and the per-protocol (PP) analysis.

Results: Of 212 patients randomized, 105 were allocated to splenectomy group and 107 to spleen-preserving group. There were no significant differences between the two groups in terms of sex, age, tumor size and site, macroscopic appearance, histologic type, or disease stage. Mean number of dissected lymph node was 45.6 in splenectomy group and 43.1 in spleen-preservation group ($p=0.336$). Early and late complications were developed in 18.1% and 18.1% of patients after splenectomy and 16.8% and 19.6% after spleen-preservation (not significant). Disease free 5-year survival rate and overall 5-year survival rate were 42.5% and 45.4% in splenectomy group and 47.9% and 51.7% in spleen-preserving group respectively in ITT analysis (not significant). Also there were no significant differences in PP analysis. Mode of recurrences including peritoneal carcinomatosis, local recurrence, and distant lymph node metastasis were not significantly different between two groups, but hematogenous metastasis was more frequent in spleen-preservation group than in splenectomy group (15.9% and 5.7%, respectively, $p=0.027$).

Conclusion: Splenectomy does not benefit the patients with regard to surgical risk and postoperative survival, and its routine use in the course of radical resection for carcinoma of the stomach should be abandoned.