Effect of Gastrectomy Scheduling on Long-Term Survival in Patients with Stage IV Gastric Cancer - A SEER Database-Based Analysis

Ziyao Xu

The First Medical Center of the General Hospital of the People's Liberation Army

Abstract:

Background: More than one-third of patients initially diagnosed with gastric cancer have metastatic disease, and the treatment for these patients presents a challenge. The role and timing of gastrectomy in the non-emergency palliative treatment of metastatic gastric cancer (mGC) has not been well elucidated. We investigated the survival benefit of different strategies in mGC patients, focusing on the role and timing of gastrectomy.

Methods: Data were extracted from the SEER database. Groups were determined according to whether patients received gastrectomy, chemotherapy, supportive care. Patients receiving a multimodality treatment were further divided according to timing of surgery, whether performed before (primary gastrectomy, PG) or after chemotherapy (secondary gastrectomy, SG). Survival differences between the two groups were compared by propensity score matching and multifactor regression analysis.

Results: 16,596 patients were included. Median OS was significantly higher ($p < 0.001$) in the SG (15 months) than in the PG (13 months), gastrectomy alone (6 months), and chemotherapy (7 months) groups. In the multivariate analysis, SG showed better OS (HR = 0.22, 95%CI = 0.18-0.26, $p < 0.001$) than PG (HR = 0.25, 95%CI = 0.23-0.28, $p < 0.001$), gastrectomy (HR = 0.40, 95%CI = 0.36-0.44, $p < 0.001$), and chemotherapy (HR = 0.42, 95%CI = 0.4-0.44, $p < 0.001$). The survival benefits persisted even after the PSM analysis.

Conclusion: This study shows survival advantages of gastrectomy as multimodality strategy after chemotherapy. In selected patients, SG can be proposed to improve the management of stage IV disease.

Keywords:

Metastatic gastric cancer, gastrectomy, multimodality treatment, chemotherapy.

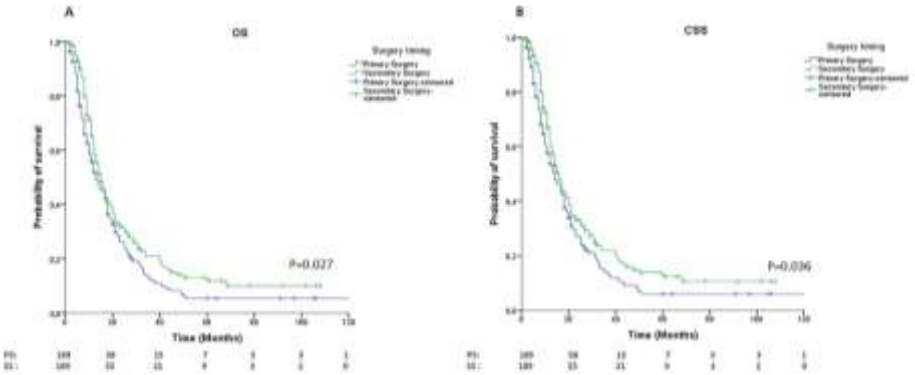

Figure. Kaplan-Meier curves of OS (A, log-rank p=0.027) and CSS (B, log-rank p=0.036) comparing primary and secondary gastrectomy after PSM.