

Early Experience with Laparoscopic Distal Gastrectomy for Gastric Cancer at a Low-volume Institute; Assessment Including CUSUM Analysis in the Initial 55 Cases

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Abstract

Background: Although there have been many reports regarding the learning curve for laparoscopic distal gastrectomy (LDG) at high-volume centers, few reports have been conducted at low-volume institutions. The present aim was to report the surgical outcomes at our hospital, a low-volume institution, for LDG in patients with early gastric cancer.

Methods: From March 2009 to August 2013, 55 patients underwent laparoscopic distal gastrectomy for early gastric cancer. These operations were performed consecutively by the regular surgeon and an assistant. The cumulative sum method was used to investigate the learning curve in terms of the length of the operation and the amount of intraoperative blood loss. The 55 patients were divided into two groups based on the time period: the first group included the first to 27th patient (period I), while the second group included the 28th to 55th patient (period II). The two groups were compared with respect to surgical outcomes, postoperative complications and length of hospital stay.

Results: The learning curve with regard to the operation time and the amount of intraoperative blood loss was not completely mastered. There were significant differences in the surgical procedure and lymph node dissection between the two groups divided according to the time period, with totally laparoscopic distal gastrectomy and D2 lymph node dissection being more frequently performed in period II. The incidence of postoperative complications during period II was lower than that observed during period I (3.6% versus 22.2%). The postoperative hospital stay in period II was shorter than that in period I (12.5 days versus 16.3 days).

Conclusions: Although the learning curves for the length of the operation and the intraoperative blood loss were not completely mastered, LDG was found to be a feasible modality, and it can be performed safely at low-volume institutions. Further studies are needed to confirm the long-term treatment outcomes.

Key words: Laparoscopy, Gastrectomy, Gastric cancer, Low volume center