

A novel method of self-pulling and latter transected delta-shaped Billroth-I anastomosis in totally laparoscopic distal gastrectomy

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Abstract

Background We developed a modified delta-shaped gastroduodenostomy technique in totally laparoscopic distal gastrectomy. This novel technique, which effectively reduces the required quantity of linear stapler [1–3], was named as self-pulling and latter transected delta-shaped anastomosis (Delta SPLT) [4].

Methods Delta SPLT was performed on 15 patients with stage cT1–2 antral cancer. We ligated the duodenum with a rope instead of transecting it and used the ligature rope to pull the duodenum during the whole progress of gastroduodenostomy. When closing the entry hole, the duodenum was transected at the same time, which saved one linear stapler. Data of clinicopathologic characteristics, surgical and postoperative outcomes were collected and expressed as means ± standard deviations.

Results All the operations were successfully performed by using no more than four 60-mm linear staplers. The mean BMI of the patients is 23.0 ± 2.5 kg/m² (range 17.0–26.0 kg/m²), and duration of the operation was 115.0 ± 33.4 min (range 75–215 min), including 22.3 ± 6.7 min (range 15–35 min) of reconstruction. Mean blood loss was 82.7 ± 71.3 mL (range 10–300 mL), and mean times to first flatus was 2.3 ± 1.1 days (range 1–5 days). A mean number of 27.5 ± 5.4 (range 18–38) lymph nodes was retrieved.

Overall postoperative morbidity rate was 6.7% (1/15). There was no anastomosis-related complication, but one case of pneumonia developed on postoperative day (POD) 2 which was successfully managed by conservative methods. Patients were discharged (POD mean 5.8 ± 1.3 , range 4–9) when their bowel movements recovered and no discomfort with soft diet was claimed.

Conclusion Delta SPLT is a safe and feasible technique and requires less clinical costs.

Keywords Totally laparoscopic distal gastrectomy · Self-pulling · Latter transection · Delta-shaped anastomosis · Gastroduodenostomy

Compliance with ethical standards

Disclosures Drs. Jun Hong, Ya-Ping Wang, Jian Wang, Yi-Bing Bei, Lu-Chun Hua, and Han-Kun Hao have no conflicts of interest or financial ties to disclose.

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