

Current status of intracorporeal gastroduodenostomy and modified delta-shape anastomosis after distal gastrectomy for gastric cancer

Yoontak Lee¹, Chun Hai Tan², Do Joong Park¹

¹Department of Surgery, Seoul National University Bundang Hospital, Seongnam-si, Gyenggi-do, Korea; ²Department of Surgery, Khoo Teck Puat Hospital, Singapore, Singapore

Correspondence to: Do Joong Park, MD, PhD. Department of Surgery, Seoul National University Bundang Hospital, 300 Gumi-dong, Bundang-gu, Seongnam-si, Gyenggi-do 463-707, Korea. Email: djpark@snuhb.org.

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Since Kanaya *et al.* reported intracorporeal Billroth I (delta-shaped) anastomosis (1), it has been widely accepted for laparoscopic distal gastrectomy. This reconstruction method has several advantages such as small incision and less pain compared to extracorporeal anastomosis. The postoperative nutritional outcomes were similar (2). Besides delta-shape anastomosis, several other intracorporeal Billroth I anastomosis methods were introduced such as ‘triangulating stapling technique’, ‘intracorporeal handsewn Billroth-I anastomosis’, and ‘linear-shaped gastroduodenostomy’ (3-5). In linear-shaped gastroduodenostomy, complicated rotation of the duodenum was not required. Vascular supply to the anastomosis was not compromised as the anterior-superior border of duodenum and greater curvature of stomach lie perpendicular to the transection stapler line.

Some surgeons are concerned about technical difficulties in using linear staplers for gastroduodenostomy. Regarding these concerns, several study reported the feasibility and safety of this method (6-8). Kanaya *et al.* also reported the result of initial 100 procedures and showed that the rate of anastomosis-related complications was lower than what has previously been reported (9). As to learning process, Jeong *et al.* reported that delta shape anastomosis has a steep learning curve without increasing operative risk in the early learning process, when performed by experienced laparoscopic surgeons (10).

Modified delta-shape gastroduodenostomy was first

reported by Huang *et al.* (11). This was different from the conventional delta-shape anastomosis in closing the common stab incision of stomach and duodenum. In this method, the blind angle of the duodenum was completely resected at the same time when the common entry hole was closed with the stapler. They reported comparable postoperative outcomes and showed that modified delta-shape gastroduodenostomy was technically safe and feasible (12).

In the video article, ‘Delta-shaped Billroth-I anastomosis in totally laparoscopic distal gastrectomy with D2 lymph node dissection for gastric cancer’ (13), the authors performed a modified delta-shape gastroduodenostomy well to lower the risk of anastomosis-related complication. If only commenting one point about the surgical procedure, the authors transected the duodenum after complete dissection of all lymph nodes. However, the early transection of duodenum is recommended for more effective supra-pancreatic lymph node dissection. Modified delta-shaped gastroduodenostomy can theoretically prevent anastomotic vascular compromise with resection of the blind duodenal stump but there is also a concern about anastomotic stenosis. A well designed prospective randomized controlled trial is required to prove its superiority over conventional delta shaped anastomosis.

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Footnote

Conflicts of Interest: The authors have no conflicts of interest to declare.

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