

Radical gastrectomy for distal gastric cancer

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Abstract: A 41-year-old female patient was diagnosed with a depressed type gastric cancer of 3.0 cm at the gastric antrum as indicated by gastroscopy. D2 radical gastrectomy for the distal gastric cancer was performed in combination with Billroth I reconstruction under general anesthesia on April 14, 2015. The postoperative recovery was satisfying without complications. The patient was discharged 8 days after surgery.

Keywords: Gastric cancer; gastrectomy; D2 lymph node dissection

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Gastric cancer is the fifth most frequently diagnosed cancer and the third leading cause of death from cancer worldwide (1). Although the rate of gastric cancer has declined dramatically over the past decades in most developed western countries, it still ranks second in both cancer incidence and cancer deaths in China (2). Surgery remains the only potentially curative therapy for all T1b to T4 gastric cancers (3). Radical gastrectomy with extended D2 lymphadenectomy is considered the standard surgical practice in East Asia and has been accepted in the West. In recent years, the laparoscopic approach has been gradually extended to advanced gastric cancer requiring gastrectomy with radical lymphadenectomy (4). However, according to Japanese gastric cancer treatment guidelines—the 4th edition 2014, the laparoscopic access was still confined to treatment of early gastric cancer not requiring enlarged lymphadenectomy due mainly to technical difficulties and oncological concerns (5).

A 41-year-old woman was admitted to our hospital due to “upper abdominal distension with acid reflux for more than a month”. Gastroscopy suggested a depressed type gastric cancer of 3.0 cm at the gastric antrum. Biopsies indicated poorly differentiated adenocarcinoma at the gastric antrum. Endoscopic ultrasound indicated the gastric lesion invaded subserous layer of the gastric antrum. CT scan suggested thickened gastric wall at the gastric antrum, without enlargement of lymph nodes around the stomach or liver metastasis. Preoperative staging: T3N0M0. On April



Figure 1 Radical gastrectomy for distal gastric cancer (6).

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14, 2015, D2 radical gastrectomy was conducted under general anesthesia for the distal gastric cancer.

During the surgery (*Figure 1*), the patient was placed in a supine position. Following general anesthesia, a middle upper abdominal incision of 18 cm was made from the xiphoid down to the umbilicus. The wound was well protected, and abdominal exploration was conducted to confirm that there were no peritoneal and liver metastases. Kocher's separation: the peritoneum was divided at the lateral border of the duodenum and the duodenum was freed. The incision continued downwards to the hepatic flexure of the colon to expand the surgical field. The anterior lobe of the transverse mesocolon and the pancreatic

capsule were completely separated to the hepatic flexure of colon on the right side and to the lower pole of the spleen on the left side, so that the omental bursa could be completely removed.

The lymph nodes in the inferior area to the pylorus were dissected along the course of the middle colon vein towards its root, and the superior mesenteric vein (SMV) anatomy, as well as the gastrointestinal vein trunk (Henle trunk) and accessory right colic vein, was freed from the inferior region of the pancreatic neck. The station 14v lymph nodes were dissected around the SMV. The separation continued towards the pylorus to free the right gastroepiploic vein and the anterior superior pancreaticoduodenal vein. The right gastroepiploic vein was ligated and cut before its junction with the pancreaticoduodenal vein. The gastroduodenal artery was isolated at the junction of the duodenum and the pancreatic head. The separation continued towards the pylorus to free the right gastroepiploic artery, which was then ligated and cut at the root. The inferior pyloric artery from the gastroduodenal artery was then separated. The inferior pyloric artery was ligated and cut, and the lower edge of the duodenum and the pylorus was completely denuded to for the complete dissection of the station No. 6 lymph nodes.

The left gastroepiploic artery was separated, ligated and cut from the lower pole of the spleen, followed by dissection of the station No. 4sb lymph nodes. The fascia over the upper edge of the pancreas was opened to reveal the splenic artery, for the dissection of the No. 11p lymph nodes. After dissection of the No. 11p lymph nodes, the separation was continued towards the left diaphragmatic muscle to dissect the lymph nodes to the left of the celiac artery.

The stomach was flipped down to the inferior side, and the anterior peritoneum of the hepatoduodenal ligament was opened. The proper hepatic artery and the right gastric artery were divided, and the latter was ligated and cut at the root. The No. 5 lymph nodes were dissected. The upper edge of the duodenal bulb was completely denuded, and the duodenum was transected 3 cm below the pylorus, with the duodenal stumps closed with reinforced stitching. Denuding and dissection of the hepatoduodenal ligament, the lymph nodes surrounding the proper hepatic artery (No. 12a) were dissected.

Separated along the common hepatic artery and the upper edge of the splenic vein towards the celiac trunk. The No. 8a lymph nodes were dissected en bloc. The coronary vein was divided from the posterior region close to the root of the common hepatic artery, and then ligated and transected.

The lymph nodes to the right of the celiac artery (No. 9) were then dissected along the plane of the right crus of the diaphragm. The left gastric artery was denuded from the periphery, ligated and cut at the root, and the No. 7 lymph nodes were dissected. The separation was continued along the right crus of the diaphragm towards the cardia to dissect the lymph nodes on its right and posterior side (No. 1). The greater and lesser curvatures of the stomach were denuded using Ligasure, and the No. 3 and 4d lymph nodes were dissected. The stomach was transected 5 cm from the upper edge of the tumor with a Tyco 100 mm linear stapler, and the distal stomach was removed together with the lymph nodes.

Reconstruction: Billroth I gastrojejunostomy was performed.

The whole operation lasted 2 hours and 20 minutes, with intraoperative blood loss of 100 mL and no blood transfusion. The patient was able to ambulate 4 days after surgery. Liquid diet was prescribed on the 5th day, and semi-liquid diet was prescribed on the 7th day. The patient was discharged 8 days after surgery. Postoperative pathology showed a depressed type poorly differentiated adenocarcinoma at the gastric antrum on the lesser curvature side, invading the submucosa; lymph nodes 1/36 metastasis.

Acknowledgements

None.

Footnote

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

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