

Laparoscopic spleen-preserving splenic hilar lymph node dissection for proximal gastric cancer

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Abstract: The video shows the operation of laparoscopic spleen-preserving splenic hilar lymph node dissection for advanced proximal gastric cancer in left approach, in order to achieve the effect of en-bloc resection. The technique simplifies the complicated operation procedure of laparoscopic spleen-preserving splenic hilar lymph node dissection and leads to popularization and promotion.

Key Words: Laparoscopic; spleen-preserving; splenic hilar lymph node dissection; proximal gastric cancer



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Case report

A 47-year-old man (BMI 21.26 kg/m²) was referred to our hospital for operation of gastric cancer. Endoscopic biopsy confirmed a histologic diagnosis of moderately differentiated adenocarcinoma. Abdominal computed tomography (CT) scan showed a thickening of gastric body and cardiac wall with perigastric lymph nodes enlarged. Laboratory testing revealed alfa-fetoprotein level of 1.81 ng/mL, carcino-embryonic antigen level of 1.8 ng/mL, carbohydrate antigen (CA) 199 level of 966.26 U/mL and CA 125 level of 80 U/mL. The patient was underwent laparoscopic spleen-preserving splenic hilar lymph node dissection for proximal gastric cancer in left approach in February 21, 2012. The final pathological diagnosis was advanced proximal gastric cancer with pathologic stage IIb (pT3N1M0). The patient recovered well after operation. First drip feeding occurred after 3 postoperative days, first oral fluid feeding occurred after 5 postoperative days and semi-liquid feeding occurred after 7 postoperative days. The patient left the hospital after 9 postoperative days and the hospital stay was 12 days. The patient is still alive with no evidence of recurrence.

Surgical technique

Patient is placed in the reverse trendelenburg position with head elevated about 15-20 degrees, and tilted left side up about 20-30 degrees. The surgeon stands between the patient's legs, the assistant and the camera operator are both on the patient's right side. At the start of the operation, the assistant places the great omentum behind the stomach to keep the visual field clear and pulls up the body of stomach toward upper right and tenses the splenogastric ligamen, the surgeon gently presses the tail of pancrea toward lower left, splenic hilum will be able to be show. The surgeon opens the pancreatic envelope, separates the membrane of body and tail of pancrea by ultrasonic to reach the posterior pancreas



Video 1 Laparoscopic spleen-preserving splenic hilar lymph node dissection for proximal gastric cancer

space at the superior border of the pancreas and opens the vascular envelope of the end of the splenic artery. The surgeon dissects the lymphatic fatty tissue on the surface of inferior splenic lobar artery towards the lower pole of the spleen. The left gastroepiploic artery which issues from the inferior splenic lobar artery is vascularized, clamped with its origin cut. At this time, the assistant gently pulls up the lymphatic fatty tissue at the surface of the inferior splenic lobar artery. Surgeon's ultrasonic scalpel's non-function face closes the surface of the inferior splenic lobar artery. Starting from the root of left gastroepiploic artery, the surgeon uses the ultrasonic scalpel by the separation

method of blunt and sharpness alternately, pushing, peeling and cutting, carefully dissects the lymphatic fatty tissue and vascularizes the inferior splenic lobar artery. With the inferior splenic lobar artery revealed gradually, 2 branches of short gastric arteries which issue from inferior splenic lobar artery are skeletoned and divided in their roots. As a result, the inferior splenic lobar artery is vascularized completely. Then, the fatty tissues and the gastric tissues are pulled up by the assistant; the surgeon dissects the lymphatic fatty tissue on the surface of the superior splenic lobar artery starting from the root of the artery towards the upper pole of the spleen, just as the procedure of vascularizing the inferior splenic lobar artery. 1 branch of short gastric artery which issues from superior splenic lobar artery is skeletoned and divided in its root. After the above procedure, the lymph node dissections in the front of splenic vessels are finished. Then the assistant pulls up the root of the inferior splenic lobar artery towards upper right. The lymphatic fatty tissue behind splenic vessels will be able to show and be pulled up by the surgeon towards lower left in order to keep in tension. The lymphatic fatty tissue behind splenic vessels will be dissected. Finally, a piece of gauze will be put behind splenic vessels at splenic hilum to indicate that the vessels are vascularized and the lymph nodes are dissected completely.

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