Single Incision Laparoscopic Complete Mesocolic Excision with Central Vascular Ligation for Advanced Transverse Colon Cancer Using Pincer Movement Method

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Abstract

Introduction: Single incision laparoscopic techniques^{1–3} for advanced transverse colon cancer are technically difficult to perform with a complete mesocolic excision (CME) with central vascular ligation (CVL). The main reason for this technical difficulty lies in the limited access to the abdominal cavity and anatomical complexity around the middle colic vessels (MCVs). This video describes a pincer

movement method using an internal organ retractor to effectively complete the dissection around the MCVs for a transverse colon cancer.

Methods: The pincer movement method refers to an original strategy used to simplify the anatomical complexity around the MCVs by approaching the transverse mesocolon caudally and cranially. This method approaches the MCVs from both sides of the transverse mesocolon to safely complete the actual circumferential dissection around the base of the MCVs at the superior mesenteric artery (SMA) and superior mesenteric vein (SMV). A 2.5 cm Z type skin incision is made, and an access platform is placed in the small umbilical incision area. The ascending colon is mobilized and the hepatic flexure is dissected using a conventional medial-to-lateral retroperitoneal approach. The omentum is divided, and the divided omentum is retracted toward the cranial space to maintain a working space by using internal organ retractors. The fascia along the inferior border of the pancreas is then transected. As a result, intraoperative pancreatic injury is avoided by securing a free space around the MCVs. Lymph nodes along SMA/SMV can be safely dissected caudally and cranially. The single incision CME with CVL can be completed along with an extracorporeal anastomosis.

Results: Single incision CME for advanced transverse colon cancer was performed for nine patients.^{4–6} There were four men and five women. The mean age of the patients was 66.5 ± 6.9 years (range 58–79) and the mean body mass index was 22.7 ± 3.8 kg/m² (range 19–25). All procedures were effectively completed and there were no postoperative complications such as anastomotic leakages, bleeding, ileus, wound infections, or hernias. The length of hospital stay was 9 days. In the final pathologic staging, there were two patients with stage I, two patients with stage II, and five patients with stage III. The mean tumor diameter was 4 cm, the mean tumor-free resection margin was 11 cm, and the mean harvested lymph nodes were 25.

Conclusion: Single incision laparoscopic CME with CVL for advanced transverse colon cancer is safe and feasible using the pincer movement method.

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No competing financial interests exist.

Consent for the publication of this case report and any additional related information was taken from the patient involved in the study.

Runtime of video: 8 mins 50 secs

Keywords: complete mesocolic excision, transverse colon cancer, single incision laparoscopic surgery

Cite this video

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