



Laparoscopic right hemicolectomy with a cranial-first approach for right-sided colon cancer

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Laparoscopic right hemicolectomy for advanced colon cancer is challenging because of the vasculature supplying blood to the right colon, individual variation, and technical difficulty of adequately removing lymph nodes at the root of the middle colic artery (MCA) while avoiding damage to the duodenum and pancreas [1].

Several methods of laparoscopic right hemicolectomy have been reported to overcome these difficulties. With the medial-to-lateral approach, it is easier to identify the superior mesenteric vein and artery after identifying the ileocecal vessels. The cranial approach can help detect feeding vessels before mobilizing the mesocolon and help avoid duodenal and pancreatic injuries [2].

Laparoscopic extended right hemicolectomy using our cranial-first approach with MCA root dissection for advanced transverse colon cancer is shown in the attached video.

The advantages of this standardized cranial-first approach are as follows: (1) recognizing the variation of vascular anatomy enables the prevention of vascular injury, (2) performing this procedure preceding the dissection of the lower edge of the pancreas can help prevent pancreatic injury, and (3) approaching the inferior border of the pancreas first can reveal the mesenteric root of the transverse colon and allow early assumption of the lymph node resection site.

The procedure required six trocars. The greater omentum was dissected with the patient in reverse Trendelenburg, and the transverse mesocolon was detached from the stomach

and duodenum. The trunk of Henle present on the anterior surface of the pancreas and the accessory right colic vein branching from it were identified. The superior mesenteric vein was exposed after dissecting the accessory right colic vein, and the cranial margin for MCA lymph node dissection was determined. The transverse mesocolon was dissected from the lower edge of the pancreas, and CME was achieved. The transverse and ascending colon was mobilized from hepatic flexure. The patient was repositioned in Trendelenburg, and dissection was performed with respect to the ileocolic artery with a medial approach and to the right edge of the superior mesenteric vein as the lymph node dissection area. Subsequently, the superior mesenteric artery and root of the MCA were confirmed from the caudal side. The MCA and middle colic vein were dissected, and the D3 lymph node dissection was completed. The right colon was resected, and anastomosis was performed from a small laparotomy in the umbilicus.

Laparoscopic right hemicolectomy for advanced colon cancer using a cranial-first approach appears to be safe and feasible.

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Data availability statement The data that support the findings of this study are available from the corresponding author upon reasonable request.

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Declarations

Conflict of interest The authors declare that they have no conflict of interest.

Ethical approval The database used for this study was approved by the institutional ethical committee (No. 4886).

Human and/or animal participants All the procedures performed in this study involving human participants were in accordance with the ethics standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

Patient consent Informed consent was obtained from all the study participants.

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