

LAPAROSCOPIC-ASSISTED RIGHT HEMICOLECTOMY - A CASE REPORT

S S Ngoi, Y Tekant, C K Kum, J Isaac, P Goh

ABSTRACT

Laparoscopic colon resection has recently attracted attention as a viable option to open colectomy due to its excellent postoperative recovery. We report the first right hemicolectomy done laparoscopically in Asia in a 62-year-old female patient with Duke's-B2 caecal carcinoma. Bowel sounds were present on the first post-operative day (POD) and diet was resumed on the third. The patient was discharged on the fourth POD. There was no complication of anastomotic leakage or wound infection.

Keywords: colectomy, laparoscopy, laparoscopic colectomy, laparoscopic surgery, right hemicolectomy.

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INTRODUCTION

The evolution of laparoscopic abdominal surgery is progressing fast. Cholecystectomy was the first general surgical procedure to be widely performed under laparoscopic means⁽¹⁾. As surgeons gained experience and proficiency in the use of laparoscopic instruments, intestinal surgery became a reality⁽²⁻⁴⁾. We report the successful performance of laparoscopic hemicolectomy on a patient with caecal carcinoma. This is the first case done successfully in Asia.

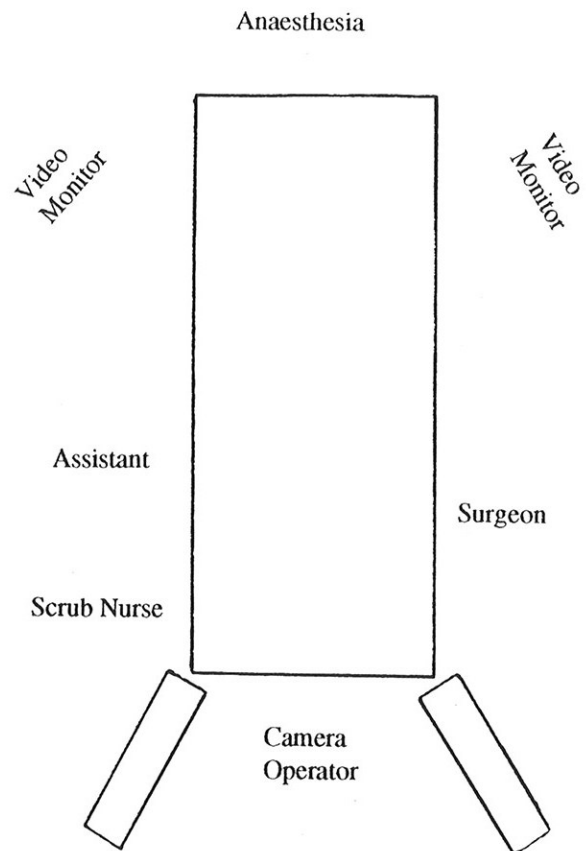
CASE REPORT

A 62-year-old female presented with a 3-month history of right iliac fossa pain, loss of appetite and loss of weight. Physical examination was unremarkable except for anaemia. Barium enema revealed a small polypoidal mass in the caecum. Colonoscopy revealed a 3 x 2 cm fungating tumour opposite the ileo-caecal valve. Biopsy showed a mucin-secreting moderately differentiated adenocarcinoma. We proceeded to perform laparoscopic right hemicolectomy on 17 January 1992.

METHOD

Under general anaesthesia, the patient was placed supine with the legs apart. Fig 1 demonstrates the operating room set-up. Pneumoperitoneum was established by carbon dioxide insufflation through a Veress needle inserted through the umbilicus. A 10-mm trocar and camera were inserted at the same site and the liver inspected for evidence of metastatic foci. Three other 10-mm trocars were placed as shown in Fig 2. A 12-mm trocar was positioned at the left upper quadrant for the laparoscopic stapler. The right colon was mobilised by dividing the lateral peritoneal reflection using electrocautery scissors, while medial retraction was aided by bowel-grasping Endo-Babcock forceps (USSC) from the left-sided ports. The

Fig 1 - The operating room set-up.



Department of Surgery
National University Hospital
Lower Kent Ridge Road
Singapore 0511

S S Ngoi, MBBS, M Med (Surg), FRCS, FAMS
Consultant

Y Tekant, MD
Research Fellow

C K Kum, MBBS, FRCS
Registrar

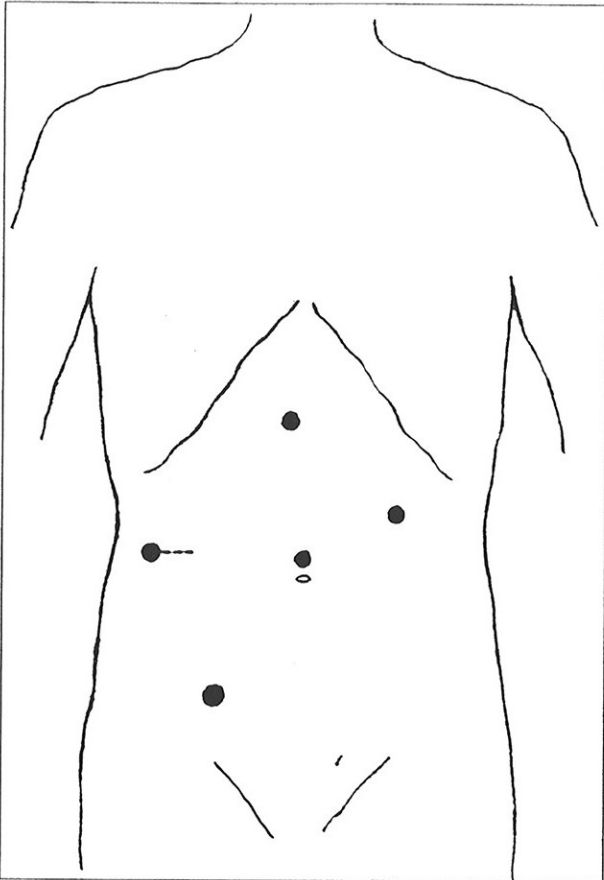
J Isaac, MBBS, M Med (Surg), FRCS
Lecturer

P Goh, MBBS, M Med, (Surg), FRCS, FAMS
Consultant Surgeon

Correspondence to: Dr S S Ngoi

ureter and the duodenum were identified and handled carefully to avoid injury. The hepatic flexure was taken down using sharp dissection with electrocautery. This necessitated cutting across the greater omentum. Multiple clips were applied across vessels to control bleeding. After full mobilisation of the right colon, the mesentery of the distal ileum at 15-cm from the ileo-caecal valve was divided using electrocautery and clips to create mesenteric windows where its vasculature could be more clearly visualised and controlled. At this point, the distal ileum was transected with an Endo-GIA-30 stapler (USSC, Norwalk, CT, USA). This step eased the mesenteric dissection towards the transverse colon by giving flexibility to the right colon for traction and countertraction. The ileo-colic, the right colic and the right branch of the middle colic artery were clipped twice, divided and mesenteric sides secured with endoploops. Mesenteric dissection was completed up to the mid-transverse colon. The right upper quadrant port was ex-

Fig 2 - Trocar sites for laparoscopic right hemicolectomy.
The dotted line shows the enlarged 4 cm incision for removing the specimen.



tended to 4 cm to facilitate delivery of the tumour and the bowel ends. The transverse colon was then divided and a side-to-side ileo-transverse anastomosis was performed using staples. The bowel was placed back into the peritoneal cavity and the 4 cm incision closed. Pneumoperitoneum was then re-established, hemostasis checked, and the abdominal cavity irrigated. The ports were then removed and the incisions were closed with prolene sutures.

RESULTS

The operation took 210 minutes. Bowel movements were present on the first postoperative day (POD), the patient passed flatus and had clear liquids on the second day and diet was resumed on the third. Analgesic requirement was two doses of 50 mg pethidine given intramuscularly on the first POD. She was fully mobile on the second POD and was discharged on the fourth. Histology showed adenocarcinoma infiltrating through the muscle coat involving the serosa without any lymph node metastases (Dukes' B2).

Follow-up at eleven months showed her to be well without any adverse sequelae or evidence of recurrence.

DISCUSSION

The major concern in performing laparoscopic colon resection for cancer is fear that lymph node dissection may not be complete. In comparison to conventional surgery, we found the extent of mesenteric resection to be similar in our case. The same observation was reported by Jacobs et al⁽²⁾ in their initial series of twenty patients subjected to various laparoscopic colon resections for malignant disease. However, long-term results must be awaited.

Paradoxical movement of the instruments and the limited space for retraction and dissection were some of the technical difficulties encountered. Identification of the main mesenteric vessels can be improved by transillumination of the mesentery by using another light source from the opposite direction.

The most remarkable aspect of this procedure was reduced postoperative pain and lack of ileus with early return to normal activities as in other laparoscopic operations. There was no delay in passing flatus and no abdominal distension which added to patient comfort and mobilisation.

Laparoscopic colectomy promises to be a significant improvement in the surgical management of colorectal disease⁽²⁻⁴⁾. It is a viable alternative to conventional open colectomy.

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