Evaluation of Five Cases of Laparoscopic Colorectal Resection with Intracorporeal Reconstruction and ICG Blood Flow Assessment

SAGES 2025

Department of Endoscopic Surgery & Hernia Center, Fukuoka Seishukai Hospital, JAPAN

Yujo Kawashita, Noriko Ikeda, Takashi Ueda, Masaki Tateishi, Hidenori Hazeyama, Junzo Yamaguchi, Sosei Abe

Background

- Intracorporeal anastomosis offers various benefits but also raises some concerns; however, its use has been increasing in recent years.
- To ensure a secure anastomosis, we performed ICG blood flow assessment and achieved favorable outcomes, which we report here.

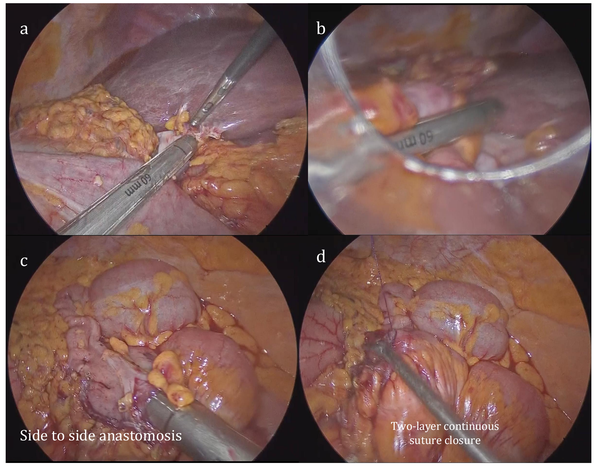
Patients and Methods

Age: 66–89 years, Male:Female: 3:2
Tumor location: Ascending (n=1), Transverse (n=1), Descending (n=3) colon cancer
Surgery: Right hemicolectomy (n=1), Extended right (n=1), Left (n=3)

Key Points:
Two EMS cases had elective surgery after two weeks.
ICG blood flow was assessed before reconstruction.
Stapled side-to-side anastomosis with two-layer closure.

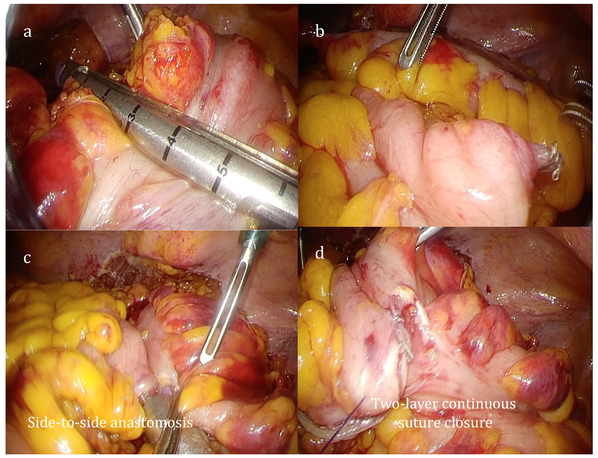
Case 1: 89-year-old Female

Procedure: Right hemicolectomy

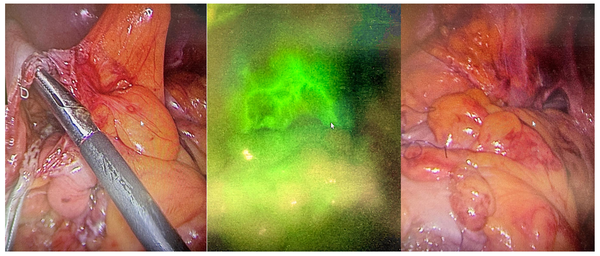


Case 2: 79-year-old Female

Procedure: Left hemicolectomy



Indocyanine green blood flow assessment



ICG enhances our vision, ensuring safer anastomosis.

Results

	1	2	3	4	5	6	7	8
Age	89	79	66	72	69	61	82	62
Gender	F	M	M	M	F	F	M	M
Location	A	D	T	D	D	D	T	D
pStage	IIIa	IIIb	IIa	IIIa	IIIb	I	I	IIIb
Surgery	Right.hemic olectomy	Lt.hemi	Extended Rt. hemi	Lt. hemi	Lt. hemi	Lt. hemi	Rt. hemi	Lt. hemi
Operative Time (min)	200	293	363	182	195	215	221	287
Blood loss(ml)	5	39	35	25	15	10	28	131
complication	None	None	None	None	None	None	None	None
Length of Hospital stay	14	14	14	10	11	13	12	13
prognosis	42Months Alive	40Months Alive	37Months Alive	30Months Alive	26Months Alive	24Months Alive	18Months Alive	12Months Alive

Clinical Implications

- Zero anastomotic complications suggests high reliability of combined ICG and intracorporeal approach
- Consistent outcomes across various tumor locations indicate broad applicability
- Consistent perioperative course with standard Japanese length of stay
- Technique appears safe and effective across different age groups and cancer stages

Advantages of Our Approach

- ICG assessment provides real-time visualization of blood flow, enhancing anastomotic safety
- Intracorporeal technique allows for precise anastomosis without mesenteric tension
- Standardized two-layer closure technique contributes to anastomotic security
- Minimal access approach demonstrates excellent outcomes in elderly population

Intracorporeal vs Extracorporeal Anastomosis: Laparoscopic Colorectal Surgery Evidence

Factors	Intracorporeal Anastomosis	Extracorporeal Anastomosis
Short-term outcomes	Often less postoperative pain and quicker recovery	Potentially more postoperative pain and slower recovery
Cosmetic results	Superior due to smaller incisions	Inferior due to larger incisions
Operative time	Possibly longer due to technical challenge	Typically shorter
Anastomotic leakage risk	Potentially lower	Potentially higher
Long-term outcomes	Comparable survival and recurrence rates	Comparable survival and recurrence rates

Conclusion

- Laparoscopic colorectal resection with intracorporeal reconstruction and ICG blood flow assessment is a feasible and potentially beneficial technique.
- Further studies are needed to evaluate long-term outcomes.

Future Directions

- Potential for standardization of ICG assessment criteria in colorectal surgery
- Opportunity for comparative studies with conventional techniques
- Investigation of long-term oncological outcomes

COI Disclosure

Yujo Kawashita

The author has no financial conflicts of interest to disclose concerning the presentation.