

Laparoscopic-assisted Colorectal Resection in Malignant Polyps and Benign Disease

Jung Gi Kang, MD¹, Nam Kyu Kim, MD., Seong Hyeon Yun, MD¹, Jea Kim Park, MD., Seung Koo Sohn, MD., Jin Sik Mn, MD.

Department of Surgery, Yonsei University College of Med
¹Ilisan Hspital, National Health Insurance Corporation, K

Purpose: Laparoscopic colorectal procedures are used for benign disease but controversial for ma disease. In early colorectal cancer, laparoscopic c can be performed safely on the basis of oncologic ciples. The purpose of this study is to evaluate th and effectiveness of laparoscopic-assisted cololec tion for malignant polyps and benign disease.

Methods: Twenty five patients submitted to surgical nent between Oct. 1996 to June 2000 were reviewed retrospectively.

Results: Malignant polyps comprized 7 cases whose res margins were all positive for cancer cells after en polypectomy and benign diseases in 18 cases (benign 7, diverticular disease: 4, submucosal tumor: 4 et common sugical procedures were anterior or lowante resection (7 cases) and segmental resection (6 cases) was no conversion to an open surgery. In malignant po pathologic results revealed early cancer with no lym metastasis. There was no operative mortality. Postop recovery was uneventful except 2 cases (9.0%) of com cations, which were, prolonged ileus in one patie subcutaneous emphysena in another patient.

Conclusions: Laparoscopic-assisted resection can be nended as a safe and effective procedure for treatne colonic malignant polyps and benign disease. **JKSCP 17:84-90**

Key Words: Laparoscopic surgery, Colorectal dis Polyp

가

가

가²⁻⁵

가

가

가 가

가

가

1997 10 2000 7

25

1996 10 2000 6

: , 134
(: 120-752)
Tel: 02-361-5561, Fax: 02-313-8289
E-mail: namkyu@yumc.yonsei.ac.kr

53 (29 77)
7 가
(90.1%)

17
20

가

1)

14 (56%) 가
7 (28.0%)
3 (16.0%), 7 (28.0%) 4
4 , 4
가 2 , 1 (Fig. 2).

Endo-loop (Fig. 1).

3 5 5 11
mm 5 cm

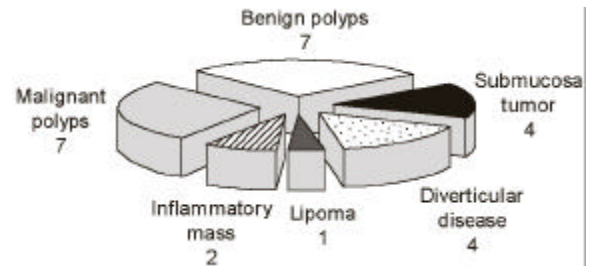


Fig. 2. Operative indications.

Table 1. Pathologic diagnosis

Pathologic diagnosis	No. of case	Percentage (%)
Adenocarcinoma*	8	32
Mucosa (+)	6	
Submucosa (+)	2	
Adenoma	6	24
Tubular	3	
Tubulovillous	2	
Villous	1	
Diverticular disease	4	16
Lipoma	3	8
Tuberculosis	1	4
Amyloidosis	1	4
Mucocele	1	4
Mucinous cystadenoma	1	4
No pathologic diagnosis	1	4
Total	25	100

*Adenocarcinoma = no lymph node metastasis.

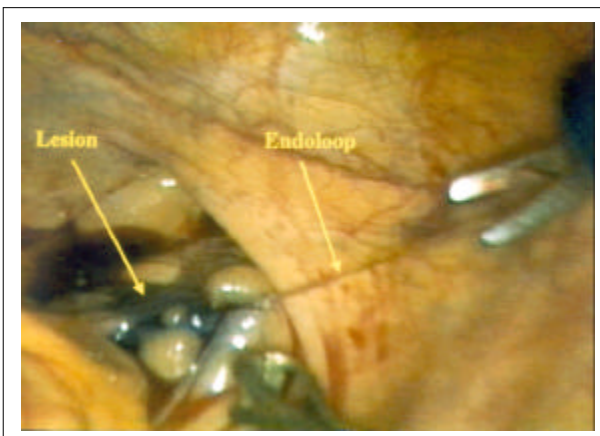


Fig. 1. Endo-loop ligation of mesocolic fat for identification of the lesion during operation.

Endo-loop

Table 2. Types of operation and mean operation time

Types of operation	No. of cases	(%)	Mean operation times (hours)
Anterior or low anterior resection	7	(28.0)	3.9
Segmental resection	6	(24.0)	3.7
Ileoascending colectomy	4	(16.0)	3.9
Rt. hemicolectomy	4	(16.0)	3.4
Ileocectomy	2	(8.0)	3.1
Cecotomy and removal of tumor	1	(4.0)	2.5
Lt. hemicolectomy	1	(4.0)	3.5
Total	25	100	3.6

Table 3. Laparoscopic procedure-related characteristics

Parameter	Observed findings (range)
Preoperative colonoscopic tattoo	13 cases
Intraoperative colonoscopy	2 cases
Blood loss (mean)	127 (30-350) ml
Conversion to open surgery	0 case

Table 4. Complications (N=25)

Complication	No. of cases	(%)
Intraoperative	2	(9)
Partial tearing of duodenum	1	
Partial tearing of rectal stump	1	
Postoperative	2	(9)
Intestinal obstruction	1	
Subcutaneous emphysema	1	

2)

8

2 가

6 (24.0%)

3 ,

2

1

4 (16.0%),

(Table 1).

3)

7

(28.6%)

가

6

(24.0%),

4 (16.0%),

4 (16.0%)

3.6

(Table 2).

4)

가 13

가 2

가 1

127 ml

(Table 3).

5)

2 (9.0%)

3.0 Vicryl

10 cm

2 (9.0%)

가 3 cm T2
5 cm

. Botoman ²³

mura ¹⁷

. Kita-

14 11
. Kim ²⁴

T1

²⁵

가 Montorsi

가

13

,¹¹ Christie¹²

2

가 가 9 2
Sugihara ¹³ 16 1
가

2 1
가

가 7

1

Kitamura ¹⁷

가

^{3,4,10,21}

가

3.9 가

가 가

가

End-

3.6

olooop

^{2,4,21}

가

98

167 ml ^{3,20,26}
127 ml

3.0 vicryl 10

cm

가
가
7.9 24% 5,10,26
2.7
9.4
13 15% 2-5
9.0%

REFERENCES

1. The Southern Surgeons Club. A prospective analysis of 1518 laparoscopic cholecystectomies. *N Engl J Med* 1991;324:1073-8.
2. Peters WR, Bartels TL. Minimally invasive colectomy: are the potential benefits realized? *Dis Colon Rectum* 1993;36:751-6.
3. Ramos JM, Beart RW, Goes R, Ortega AE, Schlinkert RT. Role of laparoscopy in colorectal surgery: a prospective evaluation of 200 cases. *Dis Colon Rectum* 1995;38:494-501.
4. Lumley JW, Fielding GA, Rhodes M, Nathanson LK, Siu S, Stitz RW. Laparoscopic-assisted colorectal surgery: lesson learned from 240 consecutive patients. *Dis Colon Rectum* 1996;39:155-9.
5. Milsom JW, Bhm B, Hammerhofer KA, Fazio V, Steiger E, Elson P. A prospective, randomized trial comparing laparoscopic versus conventional techniques in colorectal cancer surgery: preliminary report. *J Am Coll Surg* 1998;187:46-57.
6. 1998;1:147-51.
7. Young-Fadok TM. Minimally invasive techniques for colorectal cancer. *Surgical Oncology* 1998;7:165-173.
8. Wexner SD, Cohen SM. Port site metastases after laparoscopic colorectal surgery for cure of malignancy. *Br J Surg* 1995;82:295-8.
9. Bouvet M, Mansfield PI, Feig BW. Clinical, pathological and economic parameters of laparoscopic colon resection for cancer. *Am J Surg* 1998;176:55-8.
10. Ortega AE, Beart RW, Steele GD, Winchester DP, Greene FL. Laproscopic bowel surgery registry. *Dis Colon Rectum* 1995;38:681-5.
11. Haggitt RC, Glotzbach RE, Soffer EE, Wruble LD. Prognostic factors in colorectal carcinoma arising in adenoma: implications for lesions removed by endoscopic polypectomy. *Gastroenterology* 1985;89:328-36.
12. Christie JP. Malignant colon polyps-cure by colonoscopy or colectomy? *Am J Gastroenterol* 1984;79:543-7.
13. Sugihara K, Muto T, Morioka Y. Management of patients with invasive carcinoma removed by colonoscopic polypectomy. *Dis Colon Rectum* 1989;32:829-34.
14. Volk EE, Goldblum JR, Petras RE, Caley WD, Fazio VW. Management and outcome of patients with invasive carcinoma arising in colorectal polyps. *Gastroenter* 1995;109:1801-7.
15. Nivatvongs S, Rojanasakul A, Reiman HM, Dozois RR, Wolff BG, Pemberton JH, et al. The risk of lymph node metastasis in colorectal polyps with invasive adenocarcinoma. *Dis Colon Rectum* 1991;34:323-8.
16. Coverlizza S, Risio M, Ferrari A, Fenoglio-Preiser CM, Rossino FP. Colorectal adenomas containing invasive carcinoma: pathological assessment of lymph node metastatic potential. *Cancer* 1989;64:1937-47.
17. Kitamura K, Taniguchi H, Yamaguchi T, Sawai K, Takahashi T. Clinical outcome of surgical treatment for invasive early colorectal cancer in Japan. *Hepato-Gastroenterol* 1997;44:108-15.
18. Kikuchi R, Takano M, Takagi K, Fugimoto N, Nozaki

R, Fujiyoshi T, et al. Management of early invasive colorectal cancer: risk of recurrence and clinical guidelines. *Dis Colon Rectum* 1995;38:1286-95.

19. Hida JI, Yasutomi M, Maruyama T, Fugimoto K, Uchida T, Okuno K. The extent of lymph node dissection for colon carcinoma: the potential impact on laparoscopic surgery. *Cancer* 1997;80(2):188-92.

20. Joo JS, Amarnath L, Wexner SD. Is laparoscopic resection of colorectal polyps beneficial? *Surg Endosc* 1998; 12(11):1341-4.

21. Ballantyne GH. Laparoscopic-assisted colorectal surgery: review of results in 752 patients. *Gastroenterologist* 1995; 3(1):75-89.

22. Falk PM, Beart RW, Wexner SD, Thorson AG, Jagelman DG, Lavery IC, et al. Laparoscopic colectomy: a critical appraisal. *Dis Colon Rectum* 1993;36:28-34.

23. Botoman VA, Pietro M, Thirlby RC. Localization of colonic lesions with endoscopic tattoo. *Dis Colon Rectum* 1994;37:775-6.

24. Kim SH, Milsom JW, Church JM, Ludwig KA, Garcia-Ruiz A, Okuda J, et al. Perioperative tumor localization for laparoscopic colorectal surgery. *Surg Endosc* 1997; 11:1013-6.

25. Montorsi M, Opocher E, Santambrogio R, Bianchi P, Faranda C, Arcidiacono P, et al. Original technique for small colorectal tumor localization during laparoscopic surgery. *Dis Colon Rectum* 1999;42:819-22.

26. Lacy AM, Garcia-Valdecasas JC, Delgado S, Grande L, Fuster J, Tabet J, et al. Postoperative complications of laparoscopic-assisted colectomy. *Surg Endosc* 1997;11: 119-22.

가 , 25

가 .

가 .

methylene blue , 24 , 24

30 40 , 2

가 9% , 가

가 case-matched analysis