

The Value of Follow-up after Curative Resection for Colorectal Cancer

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Purpose: This study was aimed at determining whether a regular follow-up of patients with colorectal cancer can lead to improved re-resectability, and which test is useful for detecting a resectable recurrence.

Methods: The medical records of 397 consecutive patients, who underwent a curative resection for colorectal cancer between January 1996 and December 2000, with a mean follow-up of 36 months, were retrospectively analysed.

Results: The overall recurrence rate was 19.6%, with 22.5% and 7.8% in the regular and irregular follow-up groups (P=0.002), respectively. There was a significant difference in the asymptomatic recurrence detection rate (68.1 vs. 16.7%; P=0.021), but a curative intent reoperation was possible in 21 (29.1%) of those patients with a cancer recurrence in the regular follow-up group, and in 1 (16.7%) in the irregular follow-up group, which was not significantly different (P=0.454). Careful history taking and a physical examination were beneficial in the detection of a resectable recurrence. Serum carcinoembryonic antigen determination and endoscopy were useful for detecting a recurrence (14 cases and 5 cases, respectively), and of these 4 (28.6%) and 5 cases (100%) could be treated with a curative intent reoperation, respectively. Abdominal CT, or MRI, and a chest radiography were also useful for detecting a recurrence (22 cases and 8 cases, respectively), but the curative intent reoperation rates were slightly low (3 cases (13.6%) and 1 case (12.5%), respectively).

Conclusion: A regular follow-up after a curative resection for colorectal cancer, although facilitating detection of recurrence before symptoms developed, was unlikely to

succeed in increasing the rate of a curative reoperation. (J Korean Surg Soc 2003;64:56-62)

Key Words: Colorectal cancer, Follow-up

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가 1999
9.9% .(1)
가
(2-4)
가 .
(2,3)
가
가가

: 97
Ⓢ 152-703,
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: 2002 8 30 , : 2002 10 16

1) 1996 1 2000 12 5 460
 2001 12
 1
 가 26
 37 6 397
 (A group) 320 ,
 (B group) 77 ,
 가
 가
 2) 3
 CEA , CT,
 , 1
 CEA 2
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 (A group) (B
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square test Fisher's exact test P 0.05
 1) (A group) (B group)
 (Table 1).
 2) 397 36.0
 (1 77) , 78 (19.6%)
 320
 72 22.5%
 77 6
 7.8%
 (P=0.002)
 3 (2 , 1)
 (Table 2).
 3) 72

Table 1. Clinical and pathological characteristics of colorectal cancer patients

	Group A (n=320) no. of patient (%)	Group B (n=77) no. of patient (%)	P
Age			*NS
Mean	57.9	63.6	
Range	31-83	26-86	
Gender			NS
Male	166	42	
Female	154	35	
Tumor location			NS
Colon	136 (42.5)	42 (54.5)	
Rectum	183 (57.2)	35 (45.5)	
Combined	1 (0.3)		
Astler-coller stage			NS
A	9 (2.8)	3 (3.9)	
B1	64 (20.0)	10 (13.0)	
B2	116 (36.3)	35 (45.5)	
C1	18 (5.6)	4 (5.2)	
C2	108 (33.8)	22 (28.6)	
D	10 (3.1)	3 (3.9)	

49 (68.1%) 가 CEA (P=0.454)
 14 , 8 , CT (Table 4). 78 29 (37.2%)
 MRI 22 , 5 가 가 4
 가 . 1 (16.7%) 3
 CT 가 가 22 가 가
 (P=0.021)(Table 3). 88.0% (Table 5).

4)

5)

72
 21 (29.2%) 가 가

72 23 (31.9%) 8 (34.8%)
 , CEA
 14 (19.4%) 가 4 (28.6%)
 가 가 . CEA 14
 CEA 가
 4.5 (18)
 5 (6.9%)

Table 2. Type of recurrence according to their compliance to follow-up program

	Group A (n=320) No. of patient (%)	Group B (n=77) No. of patient (%)	P
No. of recurrence	72 (22.5)	6 (7.8)	0.002
Type of recurrence			0.154
Locoregional	30 (41.7)	3 (50.0)	
Distant	33 (45.8)	3 (50.0)	
Combined	6 (8.3)	—	
Metachronous	3 (4.2)	—	

Table 3. Diagnostic methods of recurrent colorectal cancer

First evidence of recurrence	Group A (n=320) no. of patient (%)	Group B (n=77) no. of patient (%)	P
Symptom or sign	23 (31.9)	5 (83.3)	
Asymptomatic state	49 (68.1)	1 (16.7)	0.021
CEA	14 (19.4)	—	
Chest radiography	8 (11.1)	—	
CT or MRI	22 (30.1)	1 (16.7)	
Endoscope	5 (6.9)	—	

Table 4. Treatments of recurrent colorectal cancer

	Group A (n=320) no. of patient (%)	Group B (n=77) no. of patient (%)	P
No of recurrence	72	6	
Operation	24 (33.3)	1 (16.7)	
Curative resection	21 (29.2)	1 (16.7)	0.454
Laparotomy	3 (4.2)	—	
Palliative options	48 (66.7)	5 (83.3)	
Chemotherapy	17 (23.6)	—	
Radiotherapy	2 (2.8)	—	
Combind chemoradiotherapy	12 (16.7)	—	
Ablation therapy	2 (2.8)	—	
Conservative therapy	15 (20.8)	5 (83.3)	

Table 5. Resectability of 78 recurrent patients

	Group A (n=72) no. of patient (%)	Group B (n=6) no. of patient (%)	Total (n=78) no. of patient (%)
Resectable	28 (38.9)	1 (20.0)	29 (37.2)
Curative intent reoperation	21 (29.1)	1 (20.0)	22 (28.2)
Laparotomy only	3 (4.2)	—	3 (3.8)
Patient refuse	4 (5.6)	—	4 (5.1)
Unresectable	44 (61.1)	5 (80.0)	49 (62.8)

(68.1% vs 16.7%)

72 21 (29.2%)

가 가
(16.7%)

가

가
가

CEA

CEA

51

가 가

가

(23-24),

Ohlsson (25)

(32% vs 33%),

(5 vs 3),

(75% vs 67%)

가

Kievit

(26) CEA

(marginal benefit)

가 가

72 14 (19.4%)

CEA가

4.5

Sugarbaker (27)

33

22

CEA

CEA

가

Moertel (28)

59%

CEA

CEA

60%

(16-18)

CEA

× =)
가 0.3% 10%

가

가

가

가

(2, 11, 12, 19)

(10, 15)

screening

1

가

가

가

(29)

(19-22)

2

CT MRI

가

가

(16-18) Castells (3) CT

11%

가

CEA

Makela (13) CT

CT MRI

가

72 22 (30.1%)

3 (13.6%)

가

(19)

72 23 (31.9%)

8 (34.8%)

CT

가

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 가 ,
 .(8,9,13) Rotondano (30)
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1996 1 2000 12 5
 397
 1. 22.5% (72/320)
 7.8% (6/77)
 (P=0.002)
 68.1% (49/72),
 16.7% (1/6) (P=0.021).
 2. 29.2% (21/72) 16.7%
 (1/6) (P=0.454).
 3. 23
 (31.9%) 8 (34.8%)
 CEA 14 (19.4%),
 8 (11.1%), CT MRI 22
 (30.1%), 5 (6.9%)
 4. CEA가 14 4 (28.6%),
 8 1 (12.5%), CT MRI가 22
 3 (13.6%), 5 5 (100%)

가
 가 CEA, , CT MRI,

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