

Comparison of Clinical Differences between Colonic Obstruction and Non-obstruction Groups in Colon Surgery

Woo Jung Sim, MD., Yong Keum Park, MD., Kyong Choun Chi, MD., Jung Hyo Lee, MD., In Taik Chan MD., Sang Jhoon Kim, MD

Department of Surgery, School of Medicine, Chung Ang Univer Seoul, Korea

Purpose : The purpose for this study is to compare th nical differences of the two groups (ie. colonic obs and non-obstruction) in colonic surgery.

Methods : Aretrospective clinical analysis was done patients with colorectal disease who had been sur treated from January 1995 to December 1997 at o institution.

Results : 1) The peak age of incidence was in the 7t 8th. decades (53.3%)in the obstruction group and 6th 7th. decades (54.3%) in the non-obstruction group, t ratio of male to female was higher in the obstruction (2.00 : 1) than in the non-obstruction group (1.04 : 1). The most common cause of colonic obstruction was mal nant disease in both groups (75.4% in the obstru group and 78.3% in the non-obstruction group). 3) most frequent symptom and sign of the two groups we abdominal pain (36.8% and 2.6% respectively). 4) most common location was cecum (24.6%) followed b sigmoid colon (22.8%) and rectum (15.8%) in the obst tion group, and rectum (40.2%) followed by ascen colon (15.2%), cecum (13.0%), and transverse colon (%) in the non obstruction group. 5) The right hemic tomy was the most common procedure in the obstructio group (29.8%) while abdominoperineal resection was m frequently performed in the non-obstruction group (%). The surgical resection rate was 77.4% and 100% obstruction group and non-obstruction group, respec 6) In the case of colon cancer, the stage of cancer (ing to Modified Astler-Coller classification) was mu in the obstruction group. An average 6.5 metastatic nodes were found from 18.5 dissected lymph nodes in

obstruction group whereas 2.7 out of 13.9 lymph nodes in the non-obstruction group. 7) The postoperative complication rate of obstruction group were 21.4% whereas that of non-obstruction group were 15.0% respectively. The postoperative mortality rate was 14% in the obstruction group and 3.3% in the non-obstruction group. The complication rate and postoperative mortality of the obstruction group was higher than those of the non-obstruction group, especially in the malignant disesae group.

Conclusions : The results of our study indicate that struction group has a different clinical course from obstruction group and associated higher postoperativ plication and mortality rate. **J Korean Soc Colop 2002 ;18 :65-72**

Key Words : Colorectal cancer, Obstruction of colon

(volvulus)
가
가 가
가 가

1995 1 1997 12 1)

149) 57 (, 60 가 17 (29.8%) 가
) 92 (. 50 가 27 (29.3%) 가
) 가 60 70 가 54.3%
 가 50 60 가 53.3%

(Table 1).

가 2 : 1
 1 : 1

CEA 1) 가 (P < 0.01).

, 2) , 3) 2)

(barium enema) 57 가
 (abdomen-pelvis CT) 43 (75.4%) .
 (mechanical bowel preparation) (adenocarcinoma) 36 (83.7%) 가 ,
 가 3 (7.0%),
 (leiomyosarcoma) 1 (2.3%)

3 ,

SPSS Student's t-test 14 가
 P-value < 0.05 5 (28.6%) 가 , (volvulus) 2 ,
 2 , (mucocele)
 가 5
 92 70 (78.3%)가
 20 (21.7%)
 8 (8.7%) 가 (Table 2).

Table 1. Age & sex distribution

Age	Obstruction group			Non-obstruction group		
	Male	Female	Total (%)	Male	Female	Total (%)
19	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
20-29	0 (0)	1 (1.8)	1 (1.8)	1 (1.1)	2 (2.2)	1 (3.3)
30-39	5 (8.8)	4 (7.0)	9 (15.8)	8 (8.7)	3 (3.3)	11 (12.0)
40-49	2 (3.5)	1 (1.8)	3 (5.3)	5 (5.4)	8 (8.7)	13 (14.1)
50-59	9 (15.8)	2 (3.5)	11 (19.3)	13 (14.1)	14 (15.2)	27 (29.3)
60-69	11 (19.3)	6 (10.5)	17 (29.8)	11 (15.9)	11 (6.9)	22 (23.9)
70-79	10 (17.6)	4 (7.0)	14 (24.6)	6 (12.4)	6 (6.9)	12 (13.0)
80	1 (1.8)	1 (1.8)	2 (3.5)	1 (1.8)	3 (1.8)	4 (4.3)
Total	38 (66.7)	29 (33.3)	57 (100.0)	45 (48.9)	47 (51.1)	92 (100.0)

3) (32.6%) 가
 (obstipation) 19 (33.3%), 21 (36.8%) 30
 5 (8.8%), 2 (3.5%)
 , 24 (26.1%), 13 (13%),
 8 (8.7%), 7 (7.6%),
 (tenesmus) 6 (6.5%) (Table 3).

4) 57 14 (24.6%),
 13 (22.8%), 9 (15.8%), (splenic
 flexure) 6 (10.5%), 5 (8.8%),
 (hepatic flexure) 4 (7.0%)
 , 37 (40.2%) 가
 14 (15.2%), 12
 (13.0%), 12 (13.1%),
 7 (7.6%), 가 (familial ade-
 nomatosis polyposis) Gardner
 가 3 (3.3%)

Table 2. Underlying diseases

Disease	Obstruction group (%)	Non-obstruction group (%)
Malignancy		
Adenocarcinoma	36 (63.2)	70 (76.1)
Metastatic disease	3 (5.2)	1 (1.1)
Lymphoma	3 (5.2)	0 (0)
Leiomyosarcoma	1 (1.8)	1 (1.1)
Subtotal	43 (75.4)	72 (78.3)
Benign		
Tuberculosis	4 (7.0)	2 (2.2)
Diverticulitis	2 (3.5)	8 (8.7)
Volvulus	2 (3.5)	3 (3.3)
Intussusception	1 (1.8)	0 (0)
Others	5 (8.8)	7 (7.7)
Subtotal	14 (24.6)	20 (21.7)
Total	57 (100.0)	92 (100.0)

Table 3. Main symptoms & signs

Chief complaints	Obstruction group (%)	Non-obstruction group (%)
Abdominal pain	21 (36.8)	30 (32.6)
Obstipation	19 (33.3)	13 (14.1)
Palpable mass	9 (15.8)	8 (8.7)
Abdominal distension	5 (8.8)	0 (0)
Bowel habit change	2 (3.5)	7 (7.6)
Anemia	1 (1.8)	0 (0)
Hematochezia	0 (0)	24 (26.1)
Tenesmus	0 (0)	6 (6.5)
Others	0 (0)	4 (4.4)
Total	57 (100.0)	92 (100.0)

Table 4. Locations of the lesion

Location	Obstruction group (%)			Non-obstruction group (%)		
	Benign	Malignancy	Total	Benign	Malignancy	Total
Cecum	5	9	14	7	5	12
Ascending colon	0	5	5	7	7	14
Hepatic flexure	2	2	4	0	2	2
Transverse colon	0	4	4	0	9	9
Splenic flexure	2	4	6	0	1	1
Descending colon	1	1	2	2	5	7
Sigmoid colon	3	10	13	2	5	7
Rectum	1	8	9	0	37	37
Entire colon	0	0	0	2	1	3
Total	14 (24.6)	43 (75.4)	57 (100.0)	20 (21.7)	72 (78.3)	92 (100.0)

가 (Table 4). (cross 가 (Table 5). section) 11.3 가 Hartmann (abdomino- ± 8.3 cm 7.2±4.8 cm , perineal resection) 22 (23.9%) 가 (P < 0.01). 20 (21.7%), 10 (10.9%), 5) 9 (9.8%) , (Table 5). 가 가 . 2 9 . 57 41 48 48 (resectability) 74.4% , 16 48 100% . 6) , 가 modified Astler-Coller classification C₂가 15 (34.9%) 가 , 가 (on table , D₇가 14 (32.5%), B₂ 6 (14.0%), C₁ 5 (11.6 %), B₁ 3 (7.0%) . lavage) (one stage operation) (right hemicolectomy) 가 가 17 (29.8%) 가 7 (12.3 (P < 0.01)(Table 6). %), (left hemicolectomy) 4 18.5 가 13 (22.8%) , 6.5 가 13.9

Table 5. Types of operative procedure

Operation	Obstruction group (%)			Non-obstruction group (%)		
	Benign	Malignancy	Total	Benign	Malignancy	Total
Cecectomy	4	0	4	8	2	10
Right hemicolectomy	3	14	17	6	14	20
Segmental resection	4	3	7	3	5	8
Left hemicolectomy	1	3	4	1	8	9
Anterior resection	0	3	3	0	9	9
Low anterior resection	0	2	2	0	9	9
Hartmann's procedure	0	4	4	0	2	2
Abdominoperineal resection	0	0	0	0	22	22
Total colectomy	0	2	2	2	1	3
Colostomy	2	11	13	0	0	0
Total	14 (24.6)	43 (75.4)	57 (100.0)	20 (21.7)	72 (78.3)	92 (100.0)

2.7 가 (Table 8).
 35.1% 19.4% 가 (P < 0.01).
 CEA 10 ng/ml (Table 7).
 3 (3.3%) 1 , 2 3
 7) 8 (14%), 3 (3.3%)
 3 (21.4) , 5 ,
 %가, 29 (67.4%)가 , 21 (29.2%) 가
 3 (15.0%), 2 , 4 .
 가
 7
 (16.3%), 6 (14.0%), 4 (9.3%)
 가 가

Table 6. Stage by modified Astler-Coller classification

Stage	Obstruction group (%)	Non-obstruction group (%)
A	0 (0)	2 (2.8)
B ₁	3 (7.0)	6 (8.5)
B ₂	6 (14.0)	22 (31.0)
C ₁	5 (11.6)	7 (8.5)
C ₂	15 (34.8)	30 (42.3)
D	14 (32.6)	5 (7.0)
Total	43 (100.0)	72 (100.0)

Table 7. Serum CEA level on admission

Range (ng/ml)	Obstruction group (%)	Non-obstruction group (%)
0 5.0	13 (30.2)	49 (68.9)
5.0 7.5	3 (7.0)	7 (9.7)
10.0 12.5	11 (25.6)	6 (8.4)
Above 12.5	16 (37.2)	10 (13.9)
Total	43 (100.0)	72 (100.0)

Table 8. Postoperative complications & mortality

No.: number

Complications	Obstruction group (n)			Non-obstruction group (n)		
	Benign (14)	Malignancy (43)	Total (57)	Benign (20)	Malignancy (72)	Total (92)
Wound infection	1	7	8	1	3	4
Urinary problem	1	3	4	1	3	4
Intestinal obstruction	0	4	4	0	3	5
Anastomosis leakage	0	6	6	1	2	3
Intraabdominal abscess	0	1	1	0	1	1
Post-op bleeding	0	2	2	0	1	1
Pulmonary problem	1	3	4	0	4	4
Acute renal failure	0	0	0	0	2	2
Others	0	3	3	0	0	0
Total No. (%)	3 (21.4)	29 (67.4)	32 (56.1)	3 (15.0)	21 (29.2)	24 (26.1)
Mortality	0	0	8 (14%)	0	0	3 (3.3%)

가
6 (10.5%)
endoprosthesis 가 1 , 2 3 (3.3%)
¹⁵⁻¹⁹ , Leu ¹⁷ 3%
²⁰ , 8 (14%), 3 (3.3%)
11 3 (11.1%) , 23% 38%
(auto-stapler) 가 가
74.4% Leu ¹⁷ 가
80.0% 가
Leu ¹⁷ 가
1995 1 1997 12
88.7% 149
⁴ 91.8% ,
modified Astler-Coller classification 57 92
가
가
가 1. 60 70 가 54.3%
, C₂ 39.1%, B₂ 22.6%, 50 60 가 53.3%
D 16.5%, C₁ 10.4%, B₁ 7.8%, A 1.7% , ⁴ , ⁹ 2.00 : 1
1.04 : 1
35.1% 2. 75.4%,
19.4% . Copeland ²¹ 78.3% 가 ,
Wolmark ²² (7.0%), (volvulus)(3.5%), (3.5%)
(8.7%) 가
(3.3%), (2.2%)
3. 36.8%
CEA 가 32.6% 가
(8.8%), (33.3%), (15.8%),
(3.5%)
2 14%, (26.1%), (14.1%), (8.7%),
67.4%, 15.0%, 29.2% (7.6%)
4. (24.6%),
(22.8%), (15.8%)
가 , (15.2%),
(13.0%), (13.1%)
11.3±8.3 cm 가
가 7.2±4.8 cm 가
5.

29.8% 가 (22.8%),
 (12.4%), Hartmann (7.0%),
 (7.0%)
 23.9%, (21.7%), (cecectomy)
 (10.9%), (9.8%), (9.8%),
 (9.8%)
 (the surgical resection rate) 74.4%
 100%
 6. modified Astler-Coller classifica-
 tion 가
 18.5 6.5 가 (35.1%)
 13.9 2.7 (19.4%)
 CEA 가
 7. 21.4%,
 67.4%, 15.0%, 29.2%
 , 8 (14%), 3
 (3.3%)
 , 5
 , 2 , 4

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