

Ileostomy Related Complications

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Purpose: Ileostomy may affect various aspects of life style of the patient. Moreover the complication after ileostomy formation or closure may lower the life quality of the patient. The purpose of this study is to investigate ileostomy related complications and elucidate associated factors.

Methods: We recruited 103 patients who underwent ileostomy in Asan Medical Center between July 1989 and June 2000. All ileostomies are constructed through the rectus muscle at the right lower quadrant of the abdomen. To minimize peristomal skin irritation, at least two to three centimeters of the ileum lies above the skin level. We analyzed complications after ileostomy formation in relation to underlying diseases, types and purpose of ileostomy. Also, we analyzed complication after ileostomy closure in relation to underlying diseases, time interval and method of take-down. Results are compared using chi-square test. Statistical significance was assigned to a P value of <0.05.

Results: Complications of ileostomy formation were developed in 17 (16.5%) cases; 8 peristomal dermatitis, 3 wound infection, 2 prolapse, 1 stenosis, 1 perforation, 1 bleeding, 1 high output ileostomy. There was no significant difference of complication rate in relation to underlying diseases, types and purpose of ileostomy. Ileostomy take-down was performed in 55 (53.4%) cases of 103 patients. Complications related with ileostomy take-down were developed in 18 (32.7%) cases; 7 wound infection, 5 intestinal obstruction, 2 incisional hernia, 2 entero-cutaneous fistula, 1 anastomosis leakage, 1 bleeding. There was no significant difference of complication rate in relation to time interval or method of take-down. However, complication rate of ileostomy take-down was significantly increased in patient with inflammatory bowel disease.

Conclusions: Ileostomy formation is simple and safe

surgical procedure. We couldn't find any factor affecting the morbidity of ileostomy formation or closure. However, complication rate after ileostomy closure, especially in patient with inflammatory bowel disease, is relatively high. *J Korean Soc Coloproctol* 2003;19:82-89

Key Words: Ileostomy, Ileostomy take-down, Complication

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1989 7 2000 6
198 6

가 103
37 (6~98)
가 2~3 cm
가
square test (Fig. 1). P<0.05
103 (52.4%), 29 (28.2%), 54

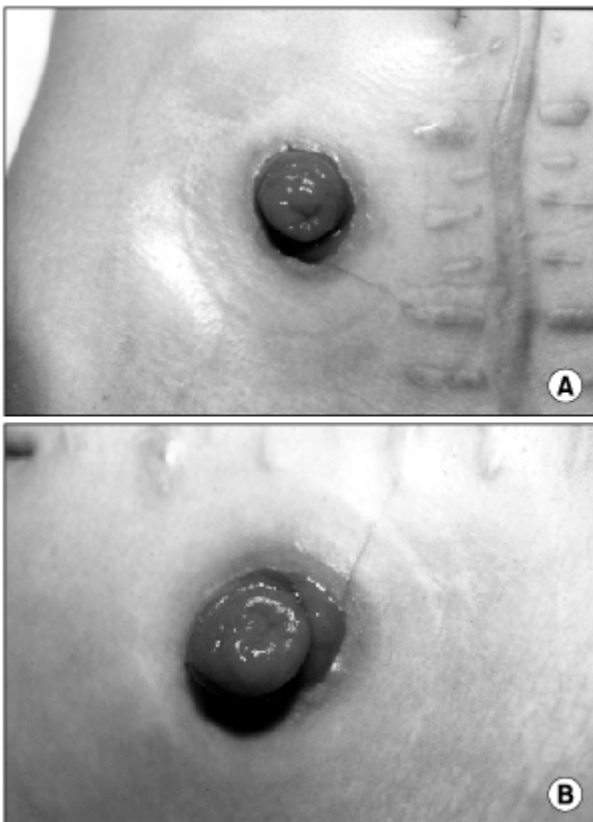


Fig. 1. Conventional loop ileostomy. A. Ileostomy is located in right lower quadrant. B. Well-constructed ileostomy is protruded 2~3 cm above skin level.

20 (19.4%)
65 (63.1%),
33 (32.0%), 5 (4.9%)
가 60 (58.3%),
가 43 (41.7%) 가 62
(60.0%), 가 41 (40.0%)
17 (16.5%)
(Fig. 2) 8 , 3 , (Fig. 3A) 2
(Fig. 4) 1
가 1
9 (16.7%),
5 (17.2%), 3 (15.0%)
로 합병증 발생률에는 통계적으로 유의한 차이가 없

Table 1. Postoperative complications according to underlying diseases

	No. of patients	No. of complications
Malignancy	54 (52.4%)	9 (16.7%)
IBD*	29 (28.2%)	5 (17.2%)
Ulcerative colitis	26	5
Crohn's disease	2	0
Beçhet's disease	1	0
Miscellaneous [†]	20 (19.4%)	3 (15.0%)
Total	103 (100.0%)	17 (16.5%)

*IBD = inflammatory bowel disease; [†] Miscellaneous = trauma, infectious disease, vasculitis, rectovaginal fistula, etc.



Fig. 2. Peristomal dermatitis. Eruption of peristomal skin accompanying marked itching and burning sensation is caused by enzymatic degradation of ileostomy effluent.

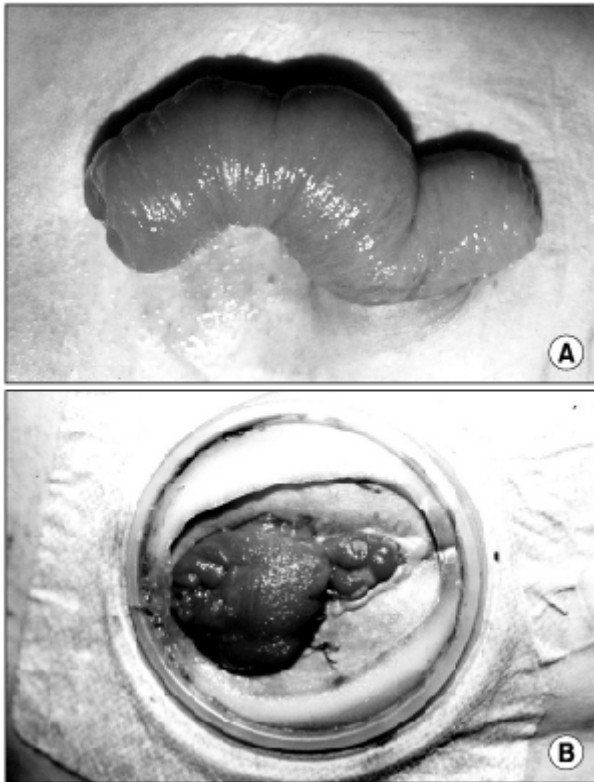


Fig 3. Ileostomy prolapse. A. Prolapsed ileostomy. B. Prolapsed ileostomy was converted into double barrel ileostomy.

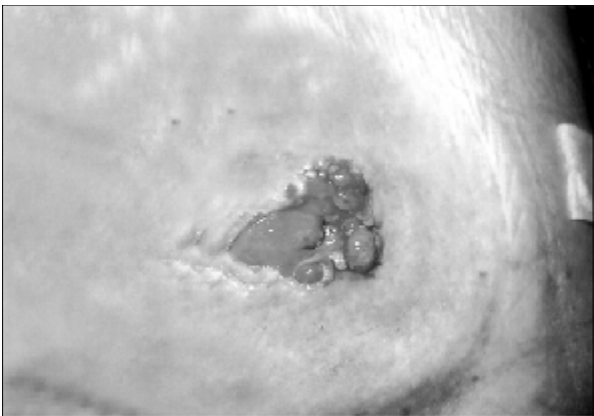


Fig. 4. Stenosis of ileostomy

Table 2. Postoperative complications according to types of ileostomy

Complications	End (n=33)	Loop (n=65)	Double barrel (n=5)
Peristomal dermatitis	5 (15.2%)	3 (4.6%)	0
Prolapse	0	2 (3.1%)	0
Stenosis	0	1 (1.5%)	0
Perforation	1 (3.0%)	0	0
Bleeding	1 (3.0%)	0	0
Wound infection	0	3 (4.6%)	0
High output ileostomy*	0	1 (1.5%)	0
Total	7 (21.2%)	10 (15.4%)	0

*High output ileostomy: effluent>1,000 ml/day

Table 3. Postoperative complications according to the purpose of ileostomy

Complications	Permanent (n=43)	Temporary (n=60)
Peristomal dermatitis	5 (11.6%)	3 (5.0%)
Prolapse	0	2 (3.3%)
Stenosis	0	1 (1.7%)
Perforation	1 (2.3%)	0
Bleeding	1 (2.3%)	0
Wound infection	0	3 (5.0%)
High output ileostomy	0	1 (1.7%)
Total	7 (16.2%)	10 (16.7%)

(7.3%)가
(Table 4).

60 55
4 (3 ~ 16)
18 (32.7%) (Table 5).

(Table 1).

7 (21.2%),
10 (15.4%)가 (Table 2)
7 (16.2%), 10
(16.7%)가 가
(Table 3). 14 (22.6%), 3

24 11 (45.8%)가

(P=0.031)

Table 4. Postoperative complications according to the urgency of operation

Complications	Elective (n=62)	Emergency (n=41)
Peristomal dermatitis	7 (11.3%)	1 (2.4%)
Prolapse	2 (3.2%)	0
Stenosis	1 (1.6%)	0
Perforation	0	1 (2.4%)
Bleeding	1 (1.6%)	0
Wound infection	2 (3.2%)	1 (2.4%)
High output ileostomy	1 (1.6%)	0
Total	14 (22.6%)	3 (7.3%)

Table 6. Postoperative complications according to time interval after ileostomy take-down

Complications	≤12 wks* (n=20)	>12 wks* (n=35)
Intestinal obstruction	1 (5.0%)	4 (11.4%)
Wound infection	2 (10.0%)	5 (14.3%)
Incisional hernia	1 (5.0%)	1 (2.9%)
Enterocutaneous fistula	1 (5.0%)	1 (2.9%)
Anastomosis leakage	0	1 (2.9%)
Bleeding	0	1 (2.9%)
Total	5 (25.0%)	13 (37.1%)

*wks = weeks

Table 7. Postoperative complications according to types of ileostomy take-down

Complications	Simple closure (n=25)	R&A* (n=40)
Intestinal obstruction	0	5 (12.5%)
Wound infection	2 (8.0%)	5 (12.5%)
Incisional hernia	2 (8.0%)	0
Enterocutaneous fistula	1 (4.0%)	1 (2.5%)
Anastomosis leakage	1 (4.0%)	0
Bleeding	0	1 (2.5%)
Total	6 (24.0%)	12 (30.0%)

*R&A = resection and anastomosis

Table 5. Postoperative complications after ileostomy take-down according to the underlying diseases

Underlying diseases	No. of patients	No. of take-down	No. of complications
Malignancy	54	16 (29.6%)	2 (12.5%)
IBD [†]	29	24 (82.8%)	11 (45.8%)
Ulcerative colitis	26	24 (82.8%)	11 (45.8%)
Crohn's disease	2	0	0
Beçhet's disease	1	0	0
Miscellaneous [‡]	20	15 (75.0%)	5 (33.3%)
Total	103	55 (53.4%)	18 (32.7%)

*P = 0.031; [†] IBD = inflammatory bowel disease; [‡] Miscellaneous = trauma, infectious disease, vasculitis, rectovaginal fistula, etc.

(Table 5).

(12) 25.0%,
(12) 37.1%

(Table 6).

가
가

(Table 7).

1879 Baum
1883 Maydle

가

가 1952

Brooke

가



(high output)

33-39

가 5,24-26

33,34,37-40 Phang 37

가 1

Reisener 39 1972 1993
548

, , , , , , , ,

10

9,17,18,27,29

가

2~3

가

가

가

40-42 42

28

가

가

33

50~70%

18,29

16.5%

가

15.1%

22

11~44%

30,31

가

43,44

가

45

32

11,13,14

가

1,5,6,8,10-12,14

가
가

10~27%

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