

Delorme

Results of Delorme's Procedure for Rectal Prolapse

Sung Whan Byun, M.D. and Han Sun Kim, M.D.

Department of Surgery, Seoul Red Cross Hospital, Seoul, Korea

Purpose: This retrospective study was designed to review and analyze the results of Delorme's procedure for rectal prolapse. **Methods:** Between 1990 and 1999, twenty-nine patients with rectal prolapse underwent Delorme's procedure. These patients had had no previous operation for rectal prolapse. This study was proceeded retrospectively through the out-patient clinic and by telephone questionnaire. **Results:** Twelve cases (41%) were males and 17 cases (59%) were females. Mean age was 55.5 years (range, 23-86 years). The duration of the symptoms was ranged from 3 months to 60 years, with the mean period of 12.2 years. The follow-up period after the operation was from 3 months to 10 years (mean follow-up, 45 months). The internal rectal prolapses were 11 cases (38%), and the complete rectal prolapses were 18 cases (62%). The common preoperative bowel habits were incontinence with 6 cases (21%) and constipation with 10 cases (34%). After the operation, incontinence and constipation were improved in 4 cases (67%) and 6 cases (60%) respectively. Additional 2 cases of constipation occurred among 19 cases who hadn't had it preoperatively but the use of laxative helped in improving the symptom. The mean operation time was 71 minutes and in 24 cases (83%), the operation was proceeded with spinal anesthesia. In 27 cases (93%), the amount of bleeding during the operation was less than 100 cc, and in 1 case (3.4%), blood transfusion was needed because the amount was more than 400 cc. The three patients (10%) had postoperative complications(one perianal abscess due to anastomotic dehiscence and two urinary retention). There was one case of recurrence (3.4%) after the operation and no postoperative mortality. **Conclusions:** Delorme's procedure has the short operation time, causes less bleeding and is possible with regional anesthesia. Delorme's procedure has low complication rate, results in good bowel function and has a low recurrence rate. Therefore, Delorme's procedure can be performed with satisfactory outcome in elderly patients and the poor general conditioned patients as well as younger patients. As recurrence rates is low and continence is improved, this procedure may be the preferred initial treatment of all patients with rectal prolapse. (JKSCP 2000;16:407-414)

Key Words: Rectal prolapse, Delorme's procedure, , Delorme

: , 164
(: 110-102)
(Tel: 02-2002-8380, Fax: 02-725-4828)
(E-mail: dismaker1@hanmail.net)
* 2000

100 가 가 2
19

1999 12 10 29 1990 1 Delorme

1990 1 1999 12 10 3 60 29 Delorme

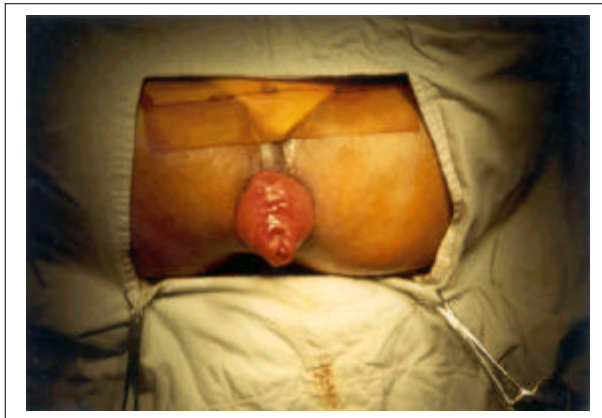


Fig. 1. The case of complete rectal prolapse of 86 years old female in the lithotomy position.



Fig. 2. Submucosal injection of 1 : 200,000 epinephrine above dentate line.

1 가 29 5-8 86 (Fig. 1).

, Foley (lithotomy) 1 : 200,000 epinephrine (Fig. 2).

1 1.5 cm , (Fig. 3). 가

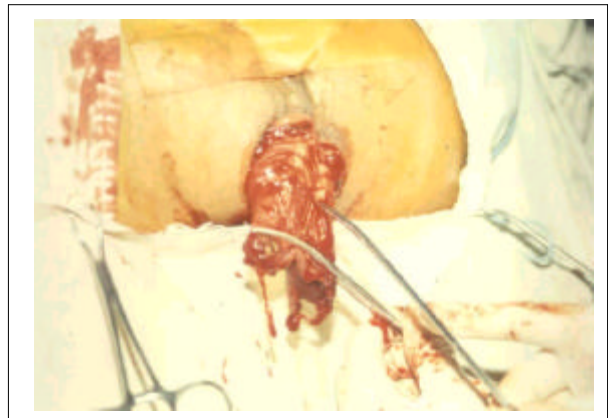


Fig. 3. Circumferential dissection in the submucosal plane.



Fig. 4. Mucosectomy was carried proximally until the limits of dissection was met.



Fig. 5. The picture of complete dissection. The length of dissection was 26 cm in this case.

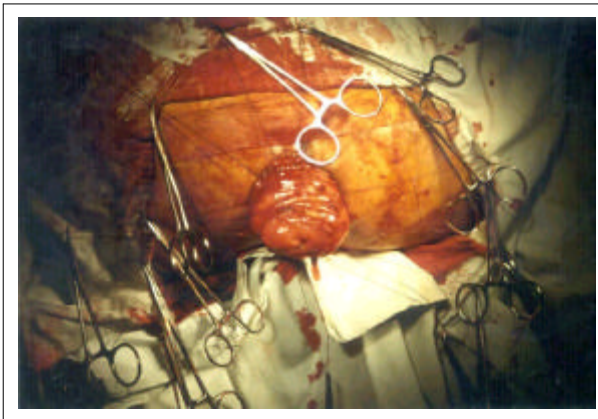


Fig. 6. Cardinal plicating sutures in four quadrant with subsequent sutures being placed in between each of the cardinal sutures.

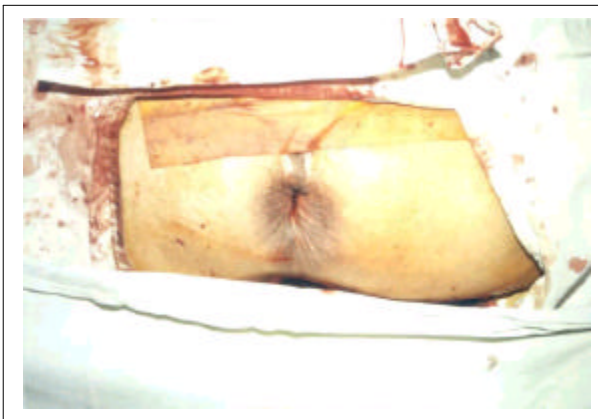


Fig. 7. The picture of anus after the operation.

(Fig. 4).
 26 cm (Fig. 5).
 4 가 (Fig. 6).
 8 Fig. 7

Delorme

29 가
 3 10 45

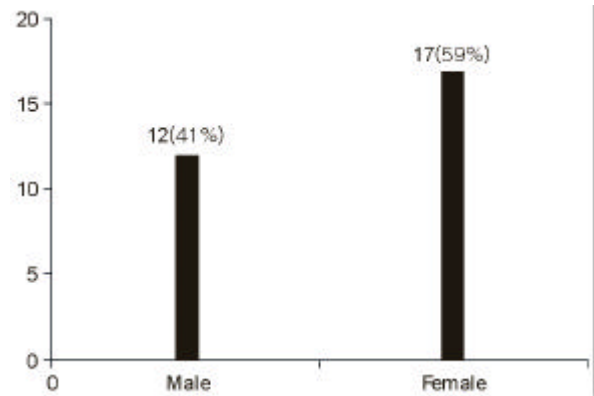


Fig. 8. Male and female ratio. Male and female ratio 1 : 1.4.

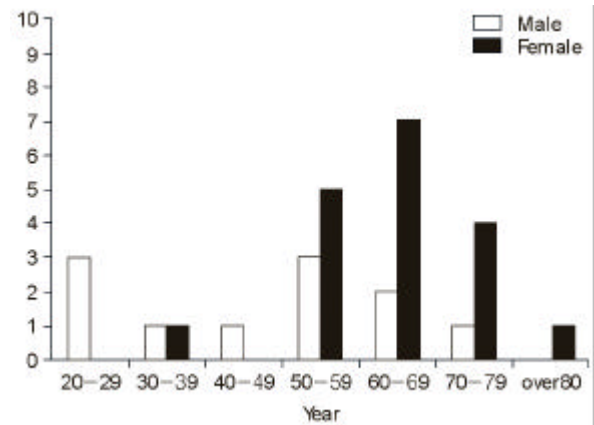


Fig. 9. Age distribution. Age distribution: 23 86 years. Mean age: 55.5 years.

1)

29 가 12 (41%), 가 17 (59%)
1 : 14 가 (Fig. 8).

2)

50 70 가 29 22 (75.9%)
, 가 23 , 가 86
. 55.5 (Fig. 9).

3)

10 가 3 60 , 6
가 10 (34%) 가

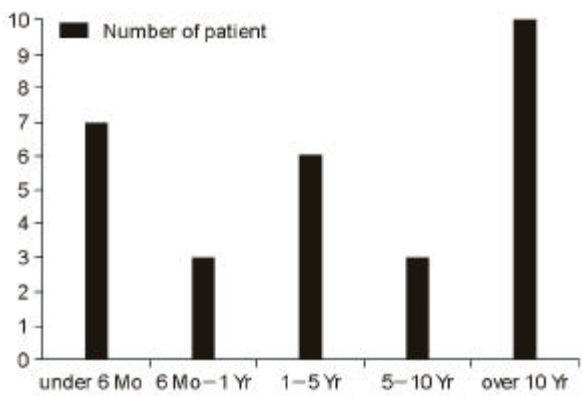


Fig. 10. Duration of the preoperative symptoms. Duration of the preoperative symptoms: 3 months 60 years. Mean duration of the symptoms: 12.2 years.

Table 1. Associated medical problem

Problem	Number of patients
1. Hypertension	3
2. Uterine prolapse	3
3. Cerebrovascular accident	2
4. Bladder prolapse	2
5. Neuropsychiatric problem	2
6. Hemorrhoids	2
7. Functional gastrointestinal disease	2
8. Hepatitis	1
9. Peptic ulcer	1
10. Cardiac disease	1
Total	19*

*Some patients had multiple problems simultaneously.

7 (24%)가 . 12.2
(Fig. 10).

4)

가 11 (38%)가 ,
가 18 (62%) .

5)

, , 3 , ,
, , , 2
, , , 1
19 가 (Table 1).

6)

50 가 8 (28%) 가 , 100
3 (10%)가 , 71 (Fig. 11).

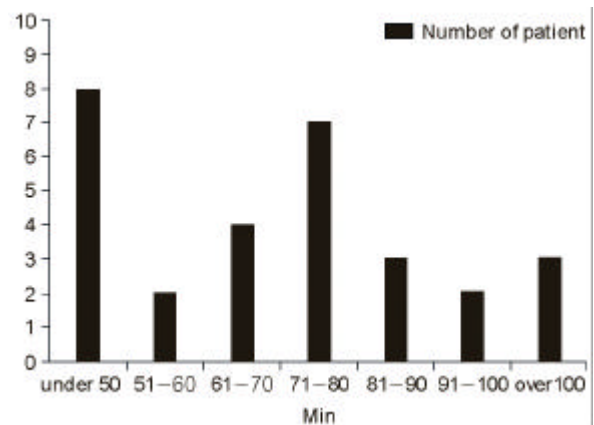


Fig. 11. Operation time. Mean operation time: 71 min.

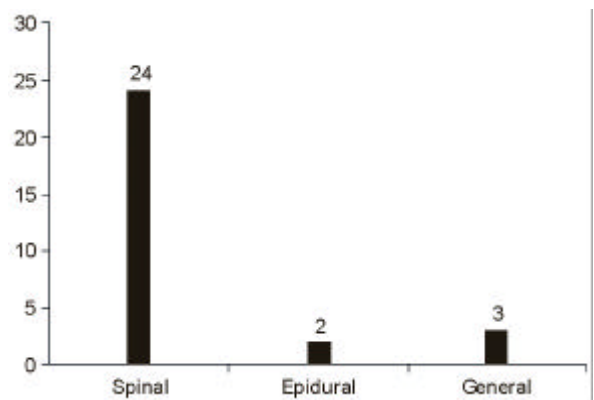


Fig. 12. Type of anesthesia.

7) 가 24 (83%), 가 2 (7%), 가 3 (10%) (Fig. 12).

8) 100 cc 가 27 (93%), 400 cc 가 1 (3.4%) (Fig. 13).

9) 가 10 (34%), 6 (21%), 가 10, 6

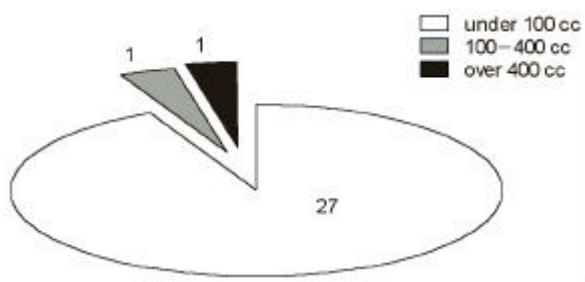


Fig. 13. Amount of bleeding.

(60%) 가 , 4 (40%) 가 , 가 19 2 (10.5%) . 6 4 (67%) , 2 (33%) 가 , (Table 2).

10) (裂開) 1 , 가 2 , 3 (10%) .

11) 1 (3.4%) ,

Table 3 1970 Delorme

Table 2. Alteration in bowel function after delorme procedure

	Preoper- ative	Postoper- ative	Preoper- ative	Postoper- ative
Constipation	10	6	Incontinent	6
Not constipated	19	23	Continent	23

Table 3. Summary of publications on the Delorme's procedure

Author	Uhlig and Sullivan ⁹⁾	Christiansen and Kirkegaard ¹⁰⁾	Gundersen et al ¹¹⁾	Houry et al ¹²⁾	Monson et al ¹³⁾	Heaton and Rennie ¹⁴⁾	Abulafi et al ¹⁵⁾	Byun and Kim
Year	1979	1988	1985	1986	1986	1988	1990	2000
Numver of patient	44	12	18	18	27	5	22	29
Recurrence	3 (6.8%)	2 (17%)	1 (6%)	3 (17%)	2 (7.4%)	1 (20%)	1 (5%)	1 (3.4%)
Posatoperative constipation	NS	NS	NS	6%	NS	NS	9%	6.9%
Improvement in continence	NS	50%	NS	44%	83%	NS	75%	67%
Follow-up	2 10 Yr	Median 3 Yr	Mean 42 Mo (3 Mo 9 Yr)	Mean 19 Mo (8 Mo 4 Yr)	Mean 35 Mo (11 54 Mo)	Mean 11 Mo	Mean 29 Mo	Mean 45 Mo (3 Mo 10 Yr)
Urinary dysfunction	10 (23%)	NS	NS	NS	NS	NS	3 (14%)	2 (7%)
Other complications	5 (11%)	0	3 (17%)	NS	0	0	3 (14%)	1 (3%)
Mortality	0	0	0	0	0	0	0	0

NS = not stated; Yr = year; Mo = month.

22,23
 repair 0 10% postanal 4 livan가 1979 Uhlig Sul-
 4%가 , Delorme
 2% .
 가 .
 operation) 가 (major Delorme 27%
 (mobilization), , 가 Delorme Delorme
 가 14%, 23%
 9,15 Foley
 16 , 7
 가 27 47% Delorme 6.8 25%
 24-27 5-11,15 Uhlig Sullivan(1979) 44 2 10
 (rigidity) (scarring) 6.8% , 9,15 29
 3 10 3.4% ,
 (lateral ligaments)
 (division) 가 가 가
 28
 가
 Delorme
 Ripstein 가 (low internal prolapse)
 16 Lisa Frykman . Sielezneff Delorme
 가 가
 (presacral mobilization) 가 1) (defecography) (rec-
 S tosacral separation)가 (proximal pro-
 cidencia), 2) , 3) , 4)
 (slowed colonic transit) 16 가
 30
 가 Delorme
 가 ,
 Al-
 temeier S (per- 44 75% 5-8
 ineal proctosigmoidectomy) Delorme
 가
 가
 (urgency) 가
 Delorme 가
 Edmond Delorme 1900

Delorme

가

Delorme

De-

1

REFERENCES

1. Berman IR, Harris MS, Rabeler MB. Delorme's transrectal excision for internal rectal prolapse. Patient selection, technique, and three year follow-up. *Dis Colon Rectum* 1990;33:573-80.
2. Williams JG. Perineal approaches to repair of rectal prolapse. *Semin Colon Rectal Surg* 1991;2:198-204.
3. Dorsey JH, Cundiff G. Laparoscopic prosthesis fixation rectopexy for complete rectal prolapse. *Curr Obstet Gynecol* 1994;6:223-30.
4. Delorme E. Classic articles in colonic and rectal surgery: On the treatment of total prolapse of the rectum by excision of rectal mucosal membranes and rectocolic. *Dis Colon Rectum* 1985;28:544-53.
5. Senapati A, Nicholls RJ, Chir M, et al. Results of Delorme's procedure for rectal prolapse. *Dis Colon Rectum* 1994;37:456-60.
6. Lechaux JP, Lechaux D, Perez M. Results of Delorme's procedure for rectal prolapse. Advantages of a modified technique. *Dis Colon Rectum* 1995;38:301-7.
7. Oliver GC, Vachon D, Eisenstat TE, et al. Delorme's procedure for complete rectal prolapse in severely debilitated patients. An analysis of 41 cases. *Dis Colon Rectum* 1994;37:461-7.
8. Tobin SA, Scott IHK. Delorme operation for rectal prolapse. *Br J Surg* 1994;81:1681-4.
9. Uhlig BE, Sullivan ES. The modified Delorme operation. Its place in surgical treatment for massive rectal prolapse. *Dis Colon Rectum* 1979;22:513-21.
10. Christiansen J, Kirkegaard P. Delorme's operation for complete rectal prolapse. *Brit J Surg* 1981;68:537-8.
11. Gundersen AL, Cogbill TH, Landercasper J. Reappraisal of Delorme's procedure for rectal prolapse. *Dis Colon Rectum* 1985;28:721-4.
12. Houry S, Lechaux JP, Huguier M, Molkhou JM. Treatment of rectal prolapse by Delorme's operation. *Int J Colorectal Dis* 1987;2:149-52.
13. Monson JR, Jones NA, Vowden P, Brennan TG. Delorme's operation the first choice in complete rectal prolapse? *Ann R Coll Surg Engl* 1986;68:143-6.
14. Heaton, ND, Rennie JA. Extended abdominal rectopexy. *Br J Surg* 1988;75:828.
15. Abulafi AM, Sherman IW, Fiddian RV, et al. Delorme's operation for rectal prolapse. *Ann R Coll Surg Engl* 1990;72:382-5.
16. Lisa K, Yu Ju Lin, Bruce A. The best operation for rectal prolapse. *Surgical Clinics of North America* 1997;77:49-70.
17. Stephen W, Russel WS. Rectoal prolapse: Delorme or Ripstein repair. *Aust N Z J Surg* 1992;62:193-5.
18. Goligher JC. Prolapse of the rectum. In: *Surgery of the Anus. Rectum and Colon* 4th edition. London: Bailliere Tindall; 1980. p. 224-58.
19. Gant-Miwa Thiersch 1992;8:235-9.
20. Gant-Miwa Thiersch 1996;12:503-10.
21. Keighley MRB, Shouler PJ. Abnormalities of colonic function in patients with rectal prolapse and faecal incontinence. *Br J Surg* 1984;71:892-5.
22. Watts JD, Rothenber DA, Buls JG, et al. The management of procidentia: 30 years' experience. *Dis Colon Rectum* 1985;28:96-102.
23. Rogers J, Jeffery PJ. Postanal repair and intersphincteric Ivalon sponge rectopexy for the treatment of rectal prolapse. *Br J Surg* 1987;74:384-6.
24. Holmstrom B, Broden G, Dolk A. Results of the Ripstein operation in the treatment of rectal prolapse and internal rectal procidentia. *Dis Colon Rectum* 1986;29:845-8.
25. Mann CV, Hoffman C. Complete rectal prolapse. The anatomic and functional results of treatment by an extended abdominal rectopexy. *Br J Surg* 1988;75:34-7.
26. Penfold JC, Hawley PR. Experiences of Ivalon-sponge implant for complete rectal prolapse at ST. Mark's Hospital 1960-1970. *Br J Surg* 1972;59:846-8.
27. Morgan CN, Porter NH, Klugman DJ. Ivalon (polyvinyl alcohol) sponge in the repair of complete rectal prolapse. *Br J Surg* 1972;59:841-6.
28. Speakman CT, Madden MV, Nicholls RJ, Kamm MA. Lateral ligament division during rectopexy causes constipation but prevents recurrence. results of a prospective randomised study. *Br J Surg* 1991;78:1431-3.
29. Sullivan ES, Leaverton GH, Hardwick CE. Transrectal perineal repair: an adjunct to improved function after ano-rectal surgery. *Dis Colon Rectum* 1968;11:106-14.
30. Sielezneff I, Malouf A, Cesari J, Brunet C, Sarles J-C, Sastre B. Selection criteria for internal rectal prolapse repair by Delorme's transrectal excision. *Dis Colon Rectum* 1999;42:367-73.