

### Clinical Study on 32 Cases of the Rectovaginal Fistula

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**Purpose:** Rectovaginal fistulas (RVFs) are relatively uncommon diseases which account for only 5% of anorectal fistulas. The treatment of RVFs is difficult and the results are often unsatisfactory. For proper treatment, many factors must be considered, such as causes, size, location and the general condition of the patients. Generally obstetric injury has been the most common cause, but recently the incidence of RVFs associated with malignant diseases or radiotherapy has been increasing. The purpose of this study was to evaluate the clinical features of RVFs according to causes.

**Methods:** Thirth-two patients with RVF were managed at the Gospel Hspital, Kosin University between Jan. 1989 and Dec. 2000 were retrospectively reviewed.

**Results:** Among RVF associated malignant diseases (26 cases), there were 5 cases due to direct invasion of malignant tumors, all of which were incurable. However, of the 18 cases of radiation induced RVFs (cervical cancer in 13, rectal cancer in 4, vaginal cancer in 1), 2 who received radiotherapy due to cervical cancer and had no residual malignancy were cured with bw anterior resection with coloanal anastomosis. All 3 cases of RVFs due to operative complication of malignant diseases were also curable. In RVFs associated with non-malignant diseases (6 cases), there were 2 cases of RVFs due to obstetric injuries, 1 due to trauma, and 3 due to operative complication of non-malignant diseases such as uterine myoma, hemorrhoids, and uterine prolapse. All 6 cases were curable, but only 3 were treated with single-stage operation, 3 required multiple-stage operation. Other cases frequently featured recurrence.

**Conclusion:** Among many factors, the cause was the most

important factor related to treatment in RVFs. Although the cases due to direct invasion of malignant tumors were incurable, the 2 who received radiotherapy due to cervical cancer were treated successfully, and their prognosis remains hopeful. All 6 cases associated with non-malignant disease were also curable. However, because of the high recurrence rate in such those cases, more careful pre-operative assessment is required for patients with RVFs. (J Korean Surg Soc 2002;63:214-219)

**Key Word:** Rectovaginal fistula

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(Table 2).

1) 가 26 , 가 6 가 5 ( 3 , 2 ) , 가 18 가 13 , 4 , 1 . 1 , 2 . 6 가 1 , 2 , 3 , 1 , 1 (Table 1).

3) 13 가 18 4 , 1 . 가 1 가 4 14 51 , 4 4 26 , 11 . 1 4,500 5,000 cGy 가 9 , 2 , 5,000 cGy 가 4 3 1 가 5 , 1 13 5 , 5 4 13 가 2 8 (Table 3).

**Table 1.** Causes of rectovaginal fistulas

Cause	Cases (N)
Malignant group (N=26)	Direct invasion 5 Cervical cancer (3) Rectal cancer (2)
	Radiation 18 Cervical cancer (13) Vaginal cancer (1) Rectal cancer (4)
	Iatrogenic 3 Cervical cancer (2) Rectal cancer (1)
Nonmalignant group (N=6)	Obstetric injury 2
	Trauma 1
	Iatrogenic 3 Uterine myoma (1) Hemorrhoid (1) Uterine prolapse (1)

**Table 2.** Clinical data of rectovaginal fistulas due to malignant direct invasion

	Cervical cancer (n=3)	Rectal cancer (n=2)
Age	44, 54, 69	44, 63
Size	3, 4, 5 (mm)	5, 10 (mm)
Location		
Upper	2	
Middle	1	1
Lower		1
Operation		
Curative operation	0	0
Colostomy	1	1
None	2	1

4)

**Table 3.** Clinical data of rectovaginal fistulas due to radiotherapy

	Cervical cancer (n=13)	Others (n=5)
Age	41 68 (mean: 54)	39 68 (mean: 52)
Location		
Upper	9	1
Middle	4	3
Lower	0	1
Size	3 30 mm (9 mm)	5 20 mm (11 mm)
Interval afte radiotherapy	4 M 14 Y (51 month)	4 26 M (11 month)
Radiotherapy method		
1 cycle (4,500 5,000 cGy)	9	5
2 cycle (>5,000 cGy)	4	
Intracavitary radiotherapy	3	1
Residual malignancy	5	4
Operation		
Curative operation : LAR*	2	
Colostomy	8	
None	3	5

\*LAR = low anterior resection.

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Operation		
Curative operation : LAR*	2	
Colostomy	8	
None	3	5

(Table 4).

5) 가

26	5 (19%)
3	26 2 (8%) 2

**Table 4.** Summary of treatment course

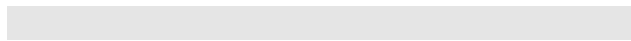
Malignant group	LAR* with protective colostomy (n=2)
Radiation : Cervical cancer	
Iatrogenic :	
Cervical cancer	
After cone biopsy	Primary repair & TAH <sup>†</sup> (n=1)
After laparoscopic hysterectomy	Primary repair & TPN (transabdominal) (n=1)
Rectal cancer	
After low anterior resection	Primary repair & TPN (transvaginal) (n=1)
Non-malignant group	
Obstetric injury	Fistula resection & colpoplasty (n=1) Primary repair (n=1)
Trauma	Primary repair reoperation reoperation & TPN
Iatrogenic	
TAH due to Uterine myoma	Primary repair with colostomy reoperation
Hemorrhoidectomy	Primary repair reoperation TPN
TVH <sup>‡</sup> due to Uterine prolapse	Conservative care

\*LAR = low anterior resection, <sup>†</sup>TAH = transabdomnal hysterectomy, <sup>‡</sup>TVH = transvaginal hysterectomy.

**Table 5.** Curable cases of rectovaginal fistulas

Predisposing factor	Curable case/total
Malignant group	5/26 (19%)
Direct invasion	0/5
Radiation	2/18
Iatrogenic	3/3
Non malignant group	6/6 (100%)
Obstetric injury	2/2
Trauma	1/1
Iatrogenic - Hemorrhoid	1/1
Uterine myoma	1/1
Uterine prolapse	1/1

가 가 (Table 5).



가 90% 가 3

가 가

가 4 (sliding advancement flap)

가 50 85%

(1-3) 24.7% (1)

3,4 Senatore(11)

genic) Sugarbaker,(5) Rex (4) (iatro- Kubchandani(6) 가

(2,3) Crohn , , 16 35% 가 (physiologic high pressure zone)

32 2 , 1 , 1

2 , 1

3 가 가 가 Tsang

가 가 가 가 (fecal continence)

81% (26/32) 가 가

75 100% (1-3, 11, 13-15)

1978 (complex type) ,(16) Crohn

90% 3 가 (17-20)

26 5 가 가 가

가 가 가 가

130 13 가 가 3

10% 가 가

Ogino (7) (rectal reference point) 가

Shafik(21) 12 (cauterization probe)

(8-10) , Abel (22)

autologous fibrin glue 5 4 가 ,

(23-25)

5

8 (Table 3),

가 가

2 가 2

3 , 1 3

3

가

4 seromuscular

intestinal graft (Patch) Mráz Sutory(26)

5 37

labial fibro-fatty tissue graft (Martius graft) Elkins (27)

(intraluminal brachytherapy)

Kusunoki (28) , 2.5 cm (neovagina)

Simonsen (29) , Nowacki(30)가

Park's coloanal sleeve anastomosis (31)

가

1. 가

가 , 가

(5/26) , 19%

11% (2/18)

2. 가

가 50% (3/6)

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