



50 가 70% . 1988  
 FIGO I 18 (67%), II 1 (4%), III 8  
 (29%) Ib 7 , Ic 11 , IIa 1 , IIIa 3 , IIIb 1 ,  
 IIIc 4 . Grade I 14 (52%), II 6 (22%),  
 III 7 (26%) . 23  
 (85%) 4 (15%)  
 1 , (anaplastic carcinoma) 1 ,  
 (endometrial stromal sarcoma) 1 , clear cell carcinoma 1

6480 cGy 가 . Ir-192  
 가 1 . (HDR RALS:  
 microSELECTRON, Nucletron International B.V.)  
 0.5 cm 400 500 cGy 3 ,  
 4 5 2000 2500 cGy 가 .  
 7040 cGy  
 11 , 7440 cGy 1 , 7540 cGy 4 .  
 Kaplan-Meier ,<sup>6)</sup>  
 log- rank test  
 14 (52%) 8 6 95 , 30

Table 1. Patient Characteristics

| Characteristics | No. of patients (%) |
|-----------------|---------------------|
| Age (years)     |                     |
| range           | 41-72               |
| median          | 56                  |
| Stage*          |                     |
| I               | 18 (67)             |
| Ib              | 7                   |
| Ic              | 11                  |
| II              | 1 (4)               |
| IIa             | 1                   |
| III             | 8 (29)              |
| IIIa            | 3                   |
| IIIb            | 1                   |
| IIIc            | 4                   |
| Grade           |                     |
| I               | 14 (52)             |
| II              | 6 (22)              |
| III             | 7 (26)              |
| Pathology       |                     |
| adenocarcinoma  | 23 (85)             |
| other           | 4 (15)              |

\* 1988 FIGO system

1.

가 50%  
 가 11 (41%), 50% 가 16 (59%)  
 가 24 (89%), 3 (11%)  
 FIGO IIIa 6  
 (22%) 가  
 1 (4%) 21  
 4 (19%)  
 20 1 가

Table 2. Pelvic Lymph Node Status According to Histopathologic Findings

| Pathologic findings     | No. of patients |       | p value |
|-------------------------|-----------------|-------|---------|
|                         | LN(+)           | LN(-) |         |
| Histologic grade        |                 |       |         |
| 1                       | 0               | 9     | 0.16    |
| 2                       | 2               | 4     |         |
| 3                       | 2               | 4     |         |
| Myometrial invasion     |                 |       |         |
| <50%                    | 1               | 6     | 0.69    |
| ≥50%                    | 3               | 11    |         |
| Adnexal invasion        |                 |       |         |
| (+)                     | 1               | 1     | 0.24    |
| (-)                     | 3               | 16    |         |
| Lymphovascular invasion |                 |       |         |
| (+)                     | 2               | 3     | 0.17    |
| (-)                     | 2               | 14    |         |

Table 2

가  
가

2.

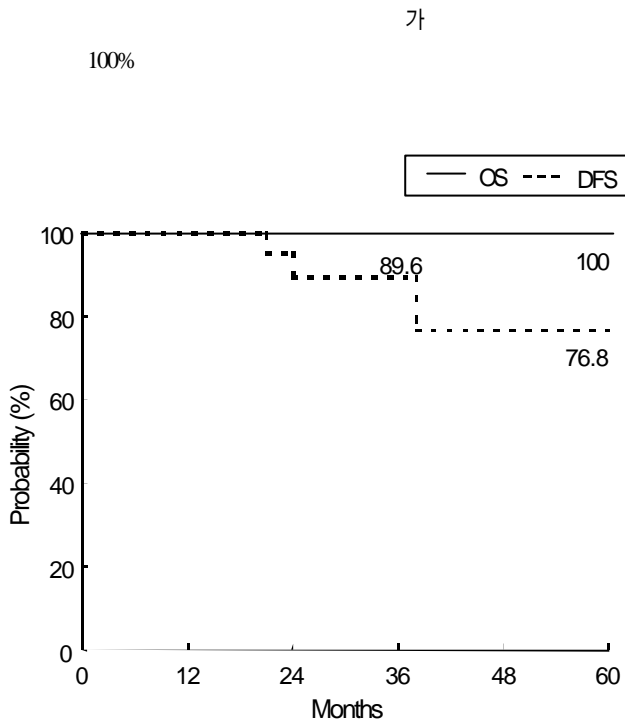


Fig. 1. Overall survival and disease free survival for all patients (N=27).  
Table 3 Disease Free Survival According to Histologic Prognostic Factors

| Pathologic findings     | No. of patients | 5 year DFS (%) | p value |
|-------------------------|-----------------|----------------|---------|
| Stage                   |                 |                |         |
| I or II                 |                 | 100            |         |
| III                     | 19              | 44             | 0.01    |
| Histologic Grade        |                 |                |         |
| 1                       | 8               | 100            |         |
| 2                       | 14              | 75             |         |
| 3                       | 6               | 42             |         |
| Pelvic lymph node       |                 |                |         |
| (-)                     | 7               | 100            | 0.09    |
| (+)                     | 17              | 0              |         |
| Lymphovascular invasion |                 |                |         |
| (-)                     | 4               | 93             | 0.001   |
| (+)                     | 21              | 0              |         |
|                         | 6               | 0              | 0.03    |

3  
89.6%, 76.8% (Fig. 1).

Table 3

. FIGO III

가  
(p=0.09).

Fig. 2, 3

3.

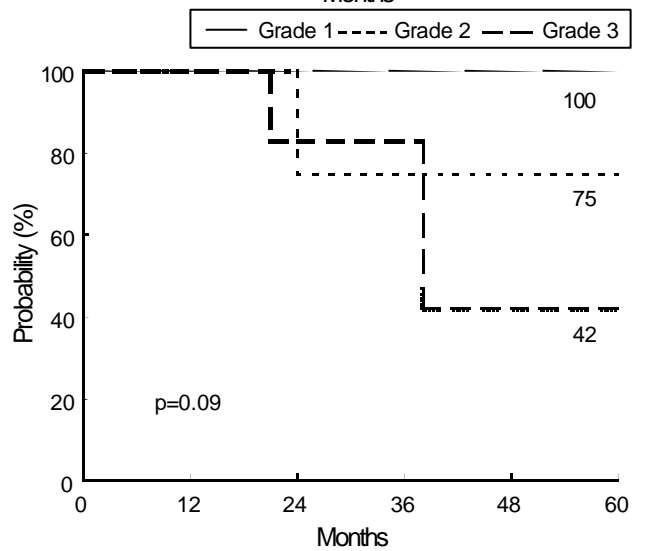
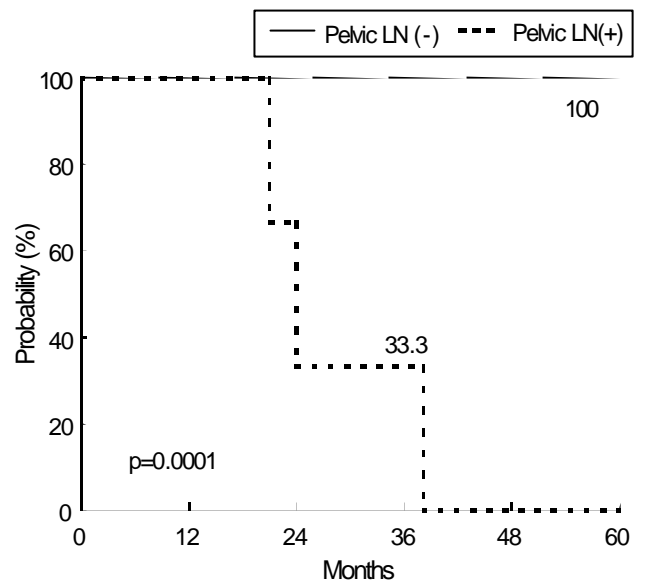
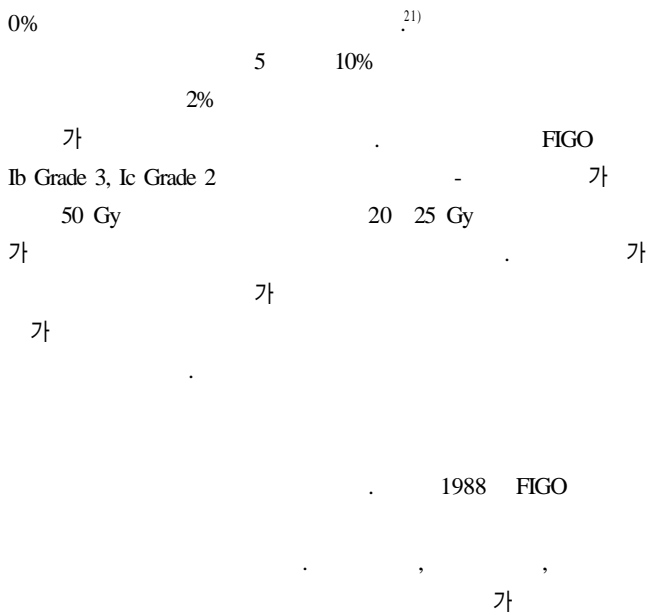


Fig.3. Disease free survival according to histologic grade.

1 , 3 1 , (28.5 15.5 %,  $p=0.1$ ),  
 가 1 (14.3 3.9%,  $p=0.03$ ). Norwegian  
 38, 21, 24 Radium Hospital  
 1 4 5)  
 Carey 80 90%  
 21, 24, 38  
 Danoff 12)  
 I, II 0%, III 12.5%(1 )  
 15)  
 FIGO Ib-III  
 I 가  
 67% 3 89.6%, 5 76.8% , - , FIGO 5  
 7, 9) Irwin  
 10) I 550  
 가 78% 5 , ,  
 , Kucera 11) I ,  
 1988 FIGO  
 92%, 3, 16)  
 88% 5 I  
 100% III  
 8 5 44% 16) Creasman  
 III 5 44 59% , ,  
 12) 5 ,  
 30 , - ,  
 16) Greven  
 가 3 , 9) 21  
 Irwin FIGO  
 Ic Grade 3, Kucera Ic 가 4  
 Grade 2 Ib Grade 1  
 가 4 I 가 ,  
 10, 11, 13) 가 ,  
 , 17) clear cell carcinoma 17 19)  
 clear cell carcinoma 21  
 가 IIIc, Grade 3  
 Carey 14) I Grade 3, 가 , 가  
 50% 가 , 가  
 가 157 ,  
 5 81% Randall I 가  
 28 Bliss 가 10%  
 20)



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*Abstract*

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## Postoperative Adjuvant Radiation Therapy in Endometrial Carcinoma

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**Purpose:** To evaluate the histopathological prognostic factors, relapse pattern and survival in patients with endometrial carcinoma who were treated with surgery and postoperative adjuvant radiotherapy (RT).

**Methods and Materials:** From September 1991 to December 1997, 27 patients with endometrial carcinoma treated with surgery and postoperative adjuvant RT at Asan Medical Center were entered in this study. Surgery was performed with total abdominal hysterectomy in six, total abdominal hysterectomy with pelvic lymph node dissection in eight and radical hysterectomy in 13 patients. External RT of 50.4 Gy was done to all patients and among these, additional high dose rate vaginal vault irradiation of 20-25 Gy with fractional dose of 4-5 Gy was boosted in 16 patients. The patients were followed for 6-95 months (median 30).

**Results:** The number of patients according to FIGO stage were I 18 (67%), II 1 (4%) and III 7 (26%). Patients with poor histologic grade, deep myometrial invasion, adnexal involvement, lymphovascular invasion showed more pelvic lymph node involvement, but no statistical significance was indicated. The 5 year overall and disease free survival were 100% and 76.8%, respectively. Relapse sites were pelvic, para-aortic lymph node, and multiple metastases including lung, and no vaginal relapse was developed. Factors that were associated with disease free survival were FIGO stage ( $p=0.01$ ), lymphovascular invasion ( $p=0.03$ ), pelvic lymph node involvement ( $p=0.0001$ ). There was only one Grade 1 rectal bleeding without moderate to severe complications.

**Conclusion:** Postoperative adjuvant RT is considered to reduce the loco-regional failure, resulting the improvement of survival. The group of patients with the risk of vaginal failure without vaginal vault irradiation should be investigated according to stage and grade.

**Key Words:** Endometrial cancer, Radiation therapy, Vaginal irradiation