Pelvic and paraaortic lymph node metastasis in clinical Stage I endometrial adenocarcinoma: an analysis of 58 consecutive cases

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Summary

Objective: The aim of this study was to evaluate the importance of complete surgical-pathologic staging in clinical Stage 1 endometrial adenocarcinomas.

Methods: 58 consecutive women with clinical Stage 1 endometrial adenocarcinomas were investigated.

Results: Isolated paraaortic lymph node invasion was found in one patient without pelvic node invasion (5%).

Conclusions: We recommend a complete lymphadenectomy instead of selective lymphadenectomy. With this practice the real stages of the cases can be determined and over treatment can be avoided.

Key words: Endometrial adenocarcinoma; Complete lymphadenectomy; Clinical Stage 1.

Introduction

Endometrial carcinoma is the most common malignancy of the female genital tract [1]. Of these carcinomas 75% can be diagnosed in Stage 1. In 1988 FIGO implemented a surgical-pathologic staging procedure. A lot of clinical and pathologic prognostic factors have been determined for these malign tumors, most of which are included in the surgical and pathologic staging description [2]. Of these prognostic varieties, tumor grade, myometrial invasion depth and lymph node metastasis interact with each other.

Eighty percent of endometrial carcinomas are adenocarcinoma subtypes [3]. Pelvic and paraaortic lymph node metastasis is not only a poor prognostic sign, as in carcinoma of cervix, but it also increases the stage of the tumor.

Pelvic lymph node metastasis incidence in clinical Stage 1 endometrial cancer is reported as 9.6% [2, 7]. In another extensive study, in clinical Stage 1 endometrial carcinomas, 9% pelvic lymph node metastasis, 5.5% paraaortic lymph node metastasis and 11% pelvic and paraaortic lymph node metastasis rates have been reported [2]. Node invasion as a poor prognostic sign is not related with node size. Thus, systematic lymphadenectomy is preferred to selective pelvic paraaortic lymphadenectomy [4-6].

The aim of this procedure was to establish the real stage, thought to be lower before surgery, and to determine the cases which need adjuvant therapy. In recent years since endoscopic surgery has been used, there are arguments about the low-grade patients with no deep myometrial invasion, as to whether lymphadenectomy is necessary or not.

Materials and Methods

In this study, 58 clinical Stage 1 patients out of 112 patients with histopathological diagnoses of endometrial adenocarcinoma treated at Gülhane Military Medical Academy Obstetrics and Gynecology Department, Gynecologic Oncology Unit, in the previous five years were investigated.

All patients underwent surgery after the preoperative evaluation. During surgical exploration, patients with an enlarged uterus, suspicious adhesions or extrauterine disease diagnosed as histopathological except for lymph node metastasis, were excluded from the study. Surgical staging included careful palpation or visual inspection of all abdominal organs and mesenteric surfaces. Multiple quadrant washings were submitted for cytologic evalation. All patients had total extrafacial hysterectomy, bilateral salphingo-oophorectomy, appendectomy and systematic pelvic-paraaortic lymph node dissection according to the FIGO 1988 criteria. All of the operations were performed by the same surgeons and the surgical specimens were examined by the same pathologists.

Results

The mean age was 46.6 (38-76) years. Of the patients, 21 (36.4%) were Stage 1a, 28 (48.2%) were Stage 1b and nine (15.4%) were Stage 1c. According to the tumor grade the distribution was: 37 cases (63.8%) grade 1, 16 cases (27.5%) grade 2, five cases (8.7%) grade 3. Table 1 shows the cases according to the 1988 FIGO surgical-pathologic staging.

Of the cases 56.7% were Stage 1a/G1 and 1b/G1.

The number of lymph nodes dissected from the 58 patients totalled 2,017 (mean number 35). The number of dissected nodes was below 20 in one case (1.7%), between 21-40 in 50 cases (84%) and more than 40 in seven cases (14.3%). In five patients (8.6%) the pelvic paraaortic lymph node was positive.

The total lymph node count dissected from the five patients that had positive lymph nodes was 182 (mean

Table 1. — *Cases distributed according to surgical-pathologic staging.*

Stage	Cases (n)	%
1a G1	13	22.4
1a G2	6	10.4
1a G3	2	3.4
1b G1	20	34.3
1b G2	6	10.4
1b G3	2	3.4
1c G1	4	7.4
1c G2	4	7.4
1c G3	1	1.7
Total	58	100

33). Total positive lymph node number in these five patients was 15. The mean age of the patients with lymph node invasion was 64 (51-76). The topographic presentation of the invaded lymph nodes is listed in Table 2.

Even if the substitution of the metastatic lymph nodes was homogeneous, it is worth noting that 11 metastatic lymph nodes (73%) were localized to the common iliac and aorta region (Table 3).

Pelvic-paraaortic lymph node invasion rates according to stages and grades are shown in Table 4. Pelvic paraaortic lymph node invasion is mostly seen at high grade and deeply myometrial invaded tumors.

Table 2. — *Topographic presentation of metastatic lymph nodes.*

Invasion area	Case number	%	Node number
Only pelvic	2	40	5
Only paraaortic	1	20	1
Pelvic-paraaortic	2	40	9
Total	5	100	15

Table 3. — *Substitution of metastatic lymph nodes according to lymph node groups.*

Lymph node groups	Number (n)	%	
Right paraaortic	2	13.3	
Left paraaortic	1	6.6	
Bifurcated aorta	2	13.3	73%
Right common iliac	2	13.3	
Left common iliac	4	26.6	
Right external iliac	1	6.6	
Left internal iliac	1	6.6	27%
Right obturatory fossa	2	13.6	
Total	15	100	

Table 4. — *Pelvic paraaortic lymph node invasion according to grade and stage.*

Stage	Pelvic	Paraaortic	Pelvic-paraaortic
1a G1 (n=13)	1	...	...
1b G1 (n=20)	...	1 (5%)	...
1b G2 (n=6)	...	...	1 (16.6%)
1b G3 (n=2)	...	...	1 (50%)
1c G3 (n=1)	...	...	1 (100%)

Discussion

Endometrial adenocarcinomas, in contrast to other sub-types, are the disease of younger patients and the prognosis varies according to the surgical-pathologic stage. Adenocarcinomas, the majority of the endometrial cancers, are surgically managed by the preoperative depth of the myometrial invasion, thus in some patients systematic pelvic paraaortic lymph node dissection and retroperitoneal area exploration can be avoided. As for lymph node dissection, selective or systematically, there are different ideas in the literature. Creaseman and Morrow [2] suggested that adequate sampling must be done to make it a worthwhile procedure. Especially when the laparoscopic surgical staging procedure is being used, low grade and borderline invaded patients are not considered to undergo lymphadenectomy. Based on the tendency of limited surgical performance, the risks of the operation such as obesity, hypertension and diabetes mellitus, have been shown. Before the FIGO 1988 surgical-pathologic staging procedure was accepted, extensive studies showed that even low grade and limited myometrial invasive cases had pelvic paraaortic lymph node invasion [2, 6]. Pelvic lymph node metastasis occurs in approximately 10% of patients with clinical Stage 1 adenocarcinoma of the endometrium.

In our study, a metastastic rate of 8.6% (5/58) was found in all Stage 1 adenocarcinomas. This rate is similiar to the reported literature. Moreover, in Stage 1a/G1 tumors, the pelvic lymph node metastasis rate was 7.7% (1/13) higher. In contrast to cervix cancer, in endometrial carcinoma only paraaortic lymph node metastasis without pelvic lymph node invasion can be seen, but more cases are encountered when both of the lymph node groups are invaded [2]. In this study isolated paraaortic node metastasis was found in one case (5% - 1/20), but in the other cases a higher rate of pelvic paraaortic lymph node invasion was found as the grade increased.

Many investigaters have emphasized the prognostic importance of node invasion and no relation between node size and metastasis. The ability to determine node metastasis in endometrial cancer may be related to the extent of the node sampling and the number of histologic sections of the individual nodes. Complete lymphadenectomy instead of selective lymphadenectomy is recommended [4, 5].

Systematic complete lymph node dissection was performed in our study and in 85% (50/58) of the cases dissected lymph node number was between 20-40 and in 14% (7/58) of the cases the number was more than 40. Although the decision to perform complete lymphadenectomy is surgeon-dependent, the histopathologic risk factors related to nodal metastasis are the sam. It is known that complete lymphadenectomy provides a survival advantage [8].

As a result, patients with endometrial adenocarcinoma must undergo complete surgical-pathologic staging (FIGO, 1988). Questions concerning the prognostic and therapeutic effect of complete lymph node removal will continue. With this practice, the real stages of the cases which are considered early stage the can be determined. Another benefit of complete lymphadenectomy is the removal of microscopic tumor embolies with early spread of disease thereby affecting survival. Thus inadequate or excessive treatments that can affect the patient's quality of life, morbidity and survival can be avoided.

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