

Pelvic-paraaortic lymphadenectomy in clinical Stage I endometrial adenocarcinoma: a multicenter study

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Summary

Purpose: To show the importance of complete surgical pathologic staging of clinical Stage I endometrial adenocarcinoma.

Methods: A total of 106 consecutive cases of clinical Stage I endometrial adenocarcinomas in two different centers were studied.

Results: We found an isolated paraaortic invasion in one patient without pelvic node invasion (0.94%) There were only three cases of pelvic lymph-node invasion (2.83%) and three cases of pelvic-paraaortic lymph-node invasion.

Conclusion: We recommend complete lymphadenectomy; the real stages of the cases can be determined more correctly and excessive treatments can be avoided.

Key words: Pelvic-paraaortic lymphadenectomy; Clinical Stage I endometrial adenocarcinoma.

Introduction

Endometrial carcinoma is the most common malignancy of the female genital tract. The median age for adenocarcinoma is 61 years; most patients are between the age of 50-59 years, and 20-25% of the cases expected are premenopausal [1].

Obesity, nulliparity and late menopause are risk factors for endometrial cancer while cigarette smoking decreases the risk. Approximately 75% of these carcinomas can be diagnosed in Stage I. FIGO decided to implement the surgical pathological staging procedure in 1988. It is thus possible to have accurate staging and to determine the cases which need adjuvant therapy. Low-risk patients can be protected from the unnecessary morbidity and high cost of adjuvant therapy. Prognostic variables for endometrial carcinomas are tumour grade, myometrial invasion depth and lymph-node metastasis.

Endometrial adenocarcinoma contributes to 80% of endometrial carcinoma cases [2], with pelvic or paraaortic lymph node invasion being the most important prognostic factor because if there is node invasion, Stage I tumor is determined as Stage III c. The size of the metastatic node is not important. Consequently systematic lymphadenectomy should be preferred to selective pelvic paraaortic lymphadenectomy [3-5].

There are studies indicating the importance of pelvic lymph node metastasis in clinical Stage I endometrial cancer. Creasman and Boronow reported pelvic lymph node metastasis as 9.6% in their series [6, 7]. In the study reported by Creasman and colleagues pelvic lymph node metastasis was 9% and paraaortic lymph node metastasis was 5.5%. In the same study it is reported that invasion rates were increased by the tumour grade and myometrial invasion rate [6].

The purpose of the study was to examine the necessity of pelvic paraaortic lymphadenectomy in clinical Stage I endometrial adenocarcinoma by complete surgical pathologic staging. Due to the improvement of endoscopic oncologic surgical techniques laparoscopic lymphadenectomy for low-grade patients with no deep myometrial invasion will be more important in the future.

Materials and Methods

In this multicenter study, 58 clinical-surgical Stage I patients with a histopathologic diagnosis of adenocarcinoma out of 112 endometrial cancer patients who had been operated on at Gülhane Military Medical Academy (GATA), Obstetrics and Gynecology Department, Gynecologic Oncology Unit in the last five years and 48 clinical-surgical Stage I patients with adenocarcinomas out of 73 endometrial cancer cases who had been operated at Zekai Tahir Burak Maternity Hospital, Gynecologic Oncology Unit, in the last five years were investigated. All patients had an operation following appropriate preoperative evaluation. Patients with suspicious adhesions histopathologically diagnosed as extrauterine invasion except lymph node and enlarged uterus were excluded from the study. In the surgical procedure peritoneal washing, total abdominal hysterectomy, bilateral salpingo-oophorectomy, appendectomy, and according to FIGO 1988 criteria systematic pelvic-paraaortic lymph node dissection were carried out. All the operations were performed by the same authors and pathology specimens examined by the same pathology team.

Results

Thirty-three of 106 patients were Stage Ia (31.12%), 51 of 106 patients were Stage Ib (48.09%), and 22 of 106 patients were Stage Ic (20.75%) (Table 1).

Sixty-four of 106 patients were grade 1 (60.37%), 34 of 106 patients were grade 2 (32.07%), eight of 106 patients were grade 3 (7.54%) (Table 2).

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

Stage	Cases (n)	%
1a G1	23	21.69
1a G2	7	6.60
1a G3	3	2.83
1b G1	35	33.01
1b G2	14	13.20
1b G3	2	1.88
1c G1	6	5.66
1c G2	13	12.26
1c G3	3	2.83
Total	106	100

Table 2. — Percentages of tumour grades.

Grade	Cases (n)	%
1	64	60.37
2	34	32.07
3	8	7.54

The mean age of the patients was 56.6 (range 32-80). Dissected lymph node count for patients was a minimum of 19 and a maximum of 87 and the mean number of lymph nodes dissected was 34.69.

In seven patients lymph node invasion was positive. Total positive lymph node number in these seven patients was 23 (Table 3).

Of the positive lymph nodes 69.42% (16/23) were in extra pelvic localizations and 33.39% (7/23) were localized in the pelvic area. The most common invasion was to the left common iliac nodes 6/23 (26.08%) (Table 4).

Four of seven positive lymph node invasions were grade 3 cases (57.14%). Lymph node metastasis by grade and stage of the tumours is summarized in Table 5.

Table 3. — Topographic presentation of metastatic lymph nodes.

Invasion area	Cases	%	Node number
Only Pelvic	3	42.85	8
Only paraaortic	1	14.28	1
Pelvic paraaortic	3	42.85	14
Total	7	100	23

Table 4. — Substitution of metastatic lymph nodes according to the lymph node groups.

Lymph-node groups	Number (n)	%
Right paraaortic	3	13.0
Left paraaortic	1	4.34
Bifurcatio aorta	3	13.0
Right common iliac	3	13.0
Left common iliac	6	26.0
Right external iliac	2	18.6
Left internal iliac	1	4.34
Right obturatory fossa	3	13.0
Left ext. iliac	1	4.34
Total	23	100

Table 5. — Pelvic paraaortic lymph node invasion according to grade and stage.

Stage	Pelvic	Paraaortic	Pelvic-paraaortic
1a G1 (n=23)	1	—	—
1a G3 (n=3)	1	—	—
1b G1 (n=35)	—	1	—
1b G2 (n=14)	—	—	1
1b G3 (n=2)	—	—	1
1c G3 (n=3)	1	—	1

Discussion

Endometrial adenocarcinoma is the most common form of endometrial carcinoma, approximately three-fourths of all cases. Adenocarcinomas are also called endometrioid because they resemble the proliferative phase of the endometrium. Endometrioid adenocarcinoma spreads directly to contiguous organs by transperitoneal and transtubal seeding, vascular dissemination and lymphatic dissemination. Lymphatic metastasis is more common than vascular spread. Disease tends to invade the pelvic lymph nodes before the paraaortic nodes. The relative frequency of lymph node invasion is 64% for paraaortic, 61% for hypogastric, 48% for external iliac, 40% for common iliac and 37% for obturator nodes [8]. Pelvic and paraaortic lymph node status have the most important prognostic significance. Thus these nodes should be sampled. If there is more than 50% myometrial invasion, grade 3 tumour, cervical involvement, extra-uterine spread, serous, clear cell, undifferentiated carcinoma or palpably enlarged lymph nodes, pelvic paraaortic systematic lymphadenectomy should be done.

If there are none of the criteria mentioned above, is pelvic paraaortic lymph node dissection necessary? In our study we tried to answer this question. There was only one case of paraaortic lymph node invasion in Stage Ib (grade 1), one case of pelvic-paraaortic lymph-node invasion in Stage Ib (grade 2) and one only case of pelvic lymph-node invasion in Stage Ia (grade 1). These findings do not coincide with common knowledge.

Some investigators have suggested complete lymphadenectomy instead of selective lymphadenectomy indicating the prognostic importance of node invasion in the literature [3, 4, 7, 9].

In one study no survival advantage of adjuvant radiotherapy was detected even for high-risk Stage I patients, thus the use of radiotherapy recommended may be only for relapse [10]. In another study it was shown that pelvic RT increases the morbidity of treatment in Stage I endometrial cancer [11].

As seen in the literature, it is important to evaluate patients for adjuvant radiotherapy. Pelvic paraaortic lymphadenectomy for patients with node involvement is useful for selecting patients for adjuvant therapies even in clinical Stage I, low-risk groups. Thus we recommend pelvic paraaortic lymphadenectomy for all clinical Stage I endometrial adenocarcinomas.

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