The role of hysteroscopy in early diagnosis of endometrial cancer

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Summary

The aim of this retrospective study was to compare stage, disease-free survival and overall survival in patients suffering from endometrial cancer who underwent hysteroscopy and those who did not.

Between January 1, 1990 and June 30, 2001, 181 patients were referred to our Gynaecologic Department for primary endometrial carcinoma; from clinical charts we reviewed the personal and pathological data of all patients.

Patients were divided into two groups: those with hysteroscopy (69 patients) and those without (112 patients).

Endometrial biopsy was performed at the end of hysteroscopy. We compared symptoms at diagnosis, stage and survival.

Hysteroscopy demonstrates a high diagnostic accuracy for endometrial cancer. In our case series we obtained a sensitivity of 93.10%, specificity of 99.96%, positive predictive value of 98.18% and negative predictive value of 99.85%; when hysteroscopy was associated with endometrial biopsy the sensitivity was 96.55% and specificity 100%.

In this study we had a significant difference in stage Ia; in the group with hysteroscopy, stage Ia cases were 23.2% while in the group without, stage Ia cases were 15.2%.

Survival in stage Ia only was 100% and 91.7%, respectively, at three and five years.

In conclusion hysteroscopy was found to have a very important role in the early diagnosis of endometrial cancer, especially when it is limited to the mucosal surface.

Key words: Hysteroscopy; Endometrial cancer.

Introduction

The incidence of endometrial cancer has increased in the last ten years: today it is the second gynaecological neoplasia after breast cancer and the most common malignancy in the female genital tract.

Endometrial carcinoma is uncommon in premenopausal women; its incidence rises with age and significantly increases with unopposed estrogens [1]. Abnormal uterine bleeding is often the first sign of neoplasia even in early stages.

At first diagnosis in about 82% of patients the tumour is limited to the uterus [2]. Although patients with endometrial cancer limited to the corpus have an excellent prognosis (stage I, 5-year survival rate 80%) [3-5] recent studies have shown that in early stages poor survival is related to lymph node metastasis [2]. Pelvic and para-aortic lymph node metastasis recur in 5.5% - 14.6% in stage I endometrial carcinoma [6-8], but only 2.5% in stage Ia [2].

Hysteroscopy is one of the most sensitive and specific techniques for the diagnosis and presurgical evaluation of endometrial carcinoma [9]; it requires distension of the uterine cavity with a gaseous or liquid medium at a pressure of 50-150 mmHg to allow complete visualisation of the cervical chanel and uterine cavity, fundus and ostial areas [10, 11]. This approach enables the hysteroscopist to biopsy any suspicious areas directly. Hysteroscopy represents a possible improvement in diagnostic accuracy over traditional endometrial sampling and dilatation and curretage [12, 13].

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Materials and Methods

Between January 1, 1990 and June 30, 2001, 181 patients were referred to our Gynaecologic Department for primary endometrial carcinoma; from clinical charts we reviewed the personal and pathological data of all patients. Prognostic risk

Table 1. — *Pathophysiologic characteristics of the patients*

	whit HSC	without HSC
No. patients	69	112
Age (years)	60 (35-86)	61 (29-87)
Menopause	60 (87%)	102 (91%)
Fertile women	9 (13%)	10 (9%)
Menarche < 12 aa	22 (32%)	26 (23,2%)
Menopause > 52 aa	28 (40%)	46 (41%)
Parity 0000	15 (22%)	14 (12,5%)
BMI	27,5 (22-41)	28,5 (19-50)
HRT	9 (13%)	3 (2,7%)
Concomitant pathologies		
Diabetes	10 (14,4%)	13 (11,6%)
Hypertension	32 (46,4%)	55 (49%)
Breast cancer	7 (10%)	6 (5,4%)
No gynaecological cancer	–	3 (2,7%)
Familiarity		
Gynaecological cancer	11 (16%)	17 (15,2%)
Colon cancer	4 (5,8%)	6 (5,4%)
No gynaecological cancer	18 (26%)	25 (22,3%)

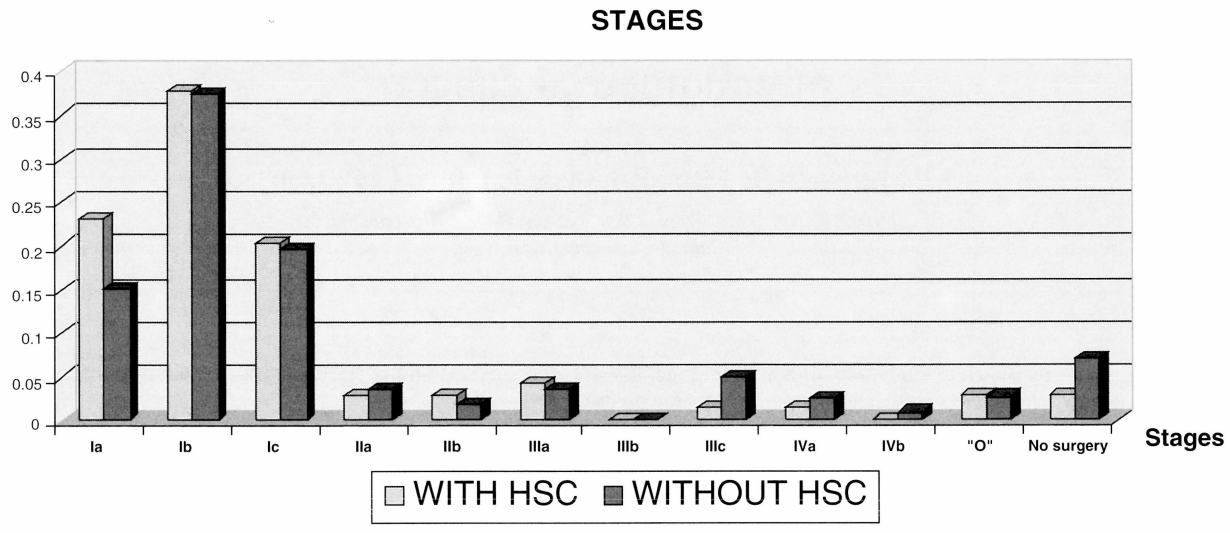

Table 2. — *Stage of endometrial cancer*

factors for endometrial cancer, including age, body mass index, familiarity, nulliparity, menopausal status, use of hormonal replacement therapy and nonmetabolic disease, and other tumours were investigated and are reported in Table 1.

One hundred and seventy-two patients out of 181 were treated by surgery and were staged according to the post surgical-FIGO (PS-FIGO) classification of 1988 [5], the other nine patients were not suitable for surgical treatment and were classified by clinical staging. Chemotherapy was performed in 40 patients and radiotherapy in five patients.

Patients were divided into two groups: those with hysteroscopy (69 patients) and those without (112 patients). The hysteroscopic examinations were performed by the same group of operators using liquid distension medium and a 6-mm rigid hysteroscope with a 30° lens. Endometrial biopsy was performed at the end of hysteroscopy.

Results

The mean age of the first group was 60 years, ranging from 35 to 86 years; 60 were postmenopausal and nine premenopausal. Of 48 patients with abnormal uterine bleeding, 21 were asymptomatic; in the asymptomatic group four had more than 4 mm endometrial thickness evaluated by transvaginal sonography and 17 had pathological findings in endometrial cytology. PS-FIGO stage distribution (Table 2) was: two in stage 0 (high risk atypical hyperplasia), 56 in stage I (16 Ia, 26 Ib, 14 Ic), four in stage II (two IIa, two IIb) four in stage III (three IIIa, one IIIc) and one in stage IV (IVa). Two patients were not suitable for surgical treatment and they were in IVa clinical stage. Survival was 86% and 80%, respectively, at three and five years; in stages Ia it was 100% and 71.5%, and in stages Ib it was 93.75%, and 92.3% respectively at three and five years (Table 3).

Table 3. — *Endometrial cancer and survival*

	Stages	Three years	Five years
	Ia	100%	71.50%
with HSC	IIb	93.75%	92.30%
	all stages	86%	80%
	Ia	100%	100%
without HSC	Ib	94%	93.75%
	all stages	76%	75%

The mean age of the second group was 61 years, ranging from 29 to 87 years; 102 were postmenopausal and 10 premenopausal. Of 87 patients with abnormal uterine bleeding, 25 were asymptomatic; in the asymptomatic group six had more than 4 mm of endometrial thickness evaluated by transvaginal sonography and 19 had pathological findings in endometrial cytology. PS-FIGO stage distribution (Table 2) was: three in stage 0 (high risk atypical hyperplasia), 81 in stage I (17 Ia, 42 Ib, 22 Ic), six in stage II (four IIa, two IIb), ten in stage III (four IIIa, six IIIc) and four stage IV (three IVa, one IVb). Eight patients were not suitable surgical treatment and they included three IIIc, two IVa and three IVb clinical stages.

Survival was 76% and 75%, respectively, at 3 and 5 years; in stage Ia it was 100% and 71.5% and in stage Ib it was 94% and 93.75%, respectively, at three and five years (Table 3).

Discussion

According to many authors [9, 7-13] hysteroscopy demonstrates a high diagnostic accuracy for endometrial cancer. In our case series we obtained a sensitivity of 93.10%, specificity of 99.96% ($p < 0.001$), positive predictive value of 98.18% and negative predictive value of 99.85%, when hysteroscopy was associated with endometrial biopsy it showed a sensitivity of 96.55% and a specificity of 100% ($p < 0.005$).

Our data suggest that hysteroscopy plays an important role in the early diagnosis of endometrial cancer, confirming the experience of other authors [14].

In this study we had a significant difference in stage Ia; in the group with hysteroscopy stage Ia cases were 23.2 while in the group without, stage Ia cases were 15.2% (Table 2). Diagnosis of endometrial cancer when it is limited to the endometrial surface is really important for prognosis. Indeed the major negative prognostic factor in endometrial cancer is considered lymph node metastasis but the incidence of this in stage Ia is very low (2.5%) [2].

Survival in stage Ia only was 100% and 91.7%, respectively, at three and five years.

Survival in all stages at three and five years was similar in patients with and without hysteroscopy even if it was much better in the first group. Indeed we had a 5-year survival of 80% in patients with hysteroscopy versus 75% in patients without.

In conclusion, hysteroscopy plays a very important role in the early diagnosis of endometrial cancer, especially when it is limited to the mucosal surface.

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