Thai Journal of Obstetrics and Gynaecology
March 2001, Vol. 13, pp. 29-32

GYNAECOLOGY

Endometrial Cancer Diagnosed in Patients Undergoing Hysterectomy for Benign Gynecologic Conditions

Jatupol Srisomboon MD,
Chailert Phongnarisorn MD,
Prapaporn Suprasert MD.

Division of Gynecologic Oncology, Department of Obstetrics & Gynecology, Faculty of Medicine, Chiang Mai University, Chiang Mai 50200, Thailand

ABSTRACT

Objective To analyze the events preceding incomplete surgical staging procedures in endometrial cancer patients.

Design Retrospective descriptive study

Setting Department of Obstetrics & Gynecology, Faculty of Medicine, Chiang Mai University

Subjects Thirty patients who were unexpectedly found to have endometrial cancer after undergoing hysterectomy for benign conditions and were referred to Chiang Mai University Hospital between January 1993 to December 1999.

Results Nineteen patients (63%) presented with abnormal uterine bleeding, but only 9 had undergone fractional uterine curettage. The pre-operative pathological reports in 8 patients were endometrial hyperplasia,(5) proliferative endometrium,(1) chronic endocervicitis,(1) and endometrial polyps.(1) The remaining one patient underwent an emergency hysterectomy for severe uterine bleeding following fractional curettage. Eleven patients presented with symptoms other than bleeding, i.e. pelvic mass(6) pelvic pain,(3) vaginal discharge,(1) and uterine prolapse.(1) Ten of the 30 operations were performed for myoma uteri. The preoperative diagnoses of the remaining 20 patients were abnormal uterine bleeding,(5) endometrial hyperplasia,(5) ovarian tumor,(4) pelvic mass,(3) intractable vaginal discharge,(1) uterine prolapse,(1) and endometrial polyps.(1) Subsequent pathologic evaluation revealed gross appearance of endometrial cancer in the hysterectomy specimens of these patients.

Conclusion Endometrial cancer might be detected in women undergoing hysterectomy for benign conditions. This situation is best prevented by careful evaluation of patients with abnormal uterine bleeding before definitive surgery. During curettage, the entire endometrium must be removed for accurate pathologic diagnosis. Routine intra-operative opening of the hysterectomy specimen is advised to detect any evidence of endometrial cancer.

Key words: Endometrial cancer, Hysterectomy, Misdiagnosis

After two large prospective surgical staging trials of endometrial cancer conducted by the Gynecologic Oncology Group (GOG) were reported in 1984 and 1987,(1,2) the International Federation of Gynecology and Obstetrics (FIGO), in 1988 has defined endometrial cancer as a surgically staged

disease, incorporating various prognostic factors into the staging process.[3] The patient prognosis is directly related to the presence or absence of intrauterine and extrauterine risk factors, i.e. myometrial invasion (MI), cervical involvement, site of metastasis, and results of peritoneal cytology.

The optimal surgical staging procedures consist of sampling peritoneal fluid for cytologic study, total extrafascial hysterectomy, bilateral salpingo-oophorectomy with selected pelvic and para-aortic lymphadenectomy. Such operation allows a more complete identification of the true stage of disease. Postoperative treatment can be tailored to the surgico-pathological findings. However, some situations arise when the diagnosis of endometrial cancer has not been made until after pathologic evaluation of the hysterectomy specimen.

This study was undertaken to analyze the events preceding incomplete surgical staging procedures in endometrial cancer patients so that preventive measures might be suggested.

Materials and Methods

From January 1993 to December 1999, thirty patients with endometrial cancer found incidentally in hysterectomy specimens were referred to the Division of Gynecologic Oncology, Chiang Mai University Hospital. All patients underwent incomplete surgical staging procedures for endometrial cancer, and definite diagnosis was recognized later by pathological evaluation of the surgical specimens. All medical records were reviewed for clinical characteristics, preoperative investigations, and indications for hysterectomy. Pathological examination of the surgical specimens was thoroughly reviewed.

Results

During the period 1993-1999, there were 352 patients with endometrial cancer, giving an incidence of 8.5% for unexpected cases. The patients' age ranged from 35 to 67 years, with a mean of 50 years. The interval from surgery to the date of referral ranged from 11 to 60 days with a mean of 30.1 days. Nineteen patients (63%) presented with abnormal uterine bleeding, but only 9 had undergone fractional uterine curettage to evaluate the cause. The pre-operative pathological reports were endometrial hyperplasia,[5] proliferative endometrium,[1] chronic endocervicitis,[1] and endometrial polyps.[1] The remaining 1 patient underwent an emergency hysterectomy for severe uterine bleeding after endometrial curettage. The pathology of the curetting and hysterectomy specimens of this patient revealed grade 1 endometrioid carcinoma. The remaining 11 patients presented with pelvic mass,[6] pelvic pain,[3] vaginal discharge,[1] and uterine prolapse.[1]

Table 1. Preoperative Diagnosis

Diagnosis	Number (%)
Myoma uteri	10 (33.3)
Abnormal uterine bleeding	5 (16.7)
Endometrial hyperplasia	5 (16.7)
Ovarian tumor	4 (13.3)
Pelvic mass	3 (10.0)
Intractable vaginal discharge	1 (3.3)
Uterine prolapse	1 (3.3)
Endometrial polyps	1 (3.3)

Concerning the preoperative diagnosis, 10 of the 30 operations were carried out for myoma uteri (Table1), in which 6 patients had abnormal uterine bleeding and did not undergo any fractional curettage. The remaining 4 patients with preoperative diagnosis of myoma uteri had no uterine bleeding but presented with pelvic pain[3] and pelvic mass.[1]

The hysterectomy were performed for abnormal uterine bleeding in 5 instances. Only 2 patients underwent fractional curettage disclosing proliferative endometrium[1] and chronic endocervicitis.[1] Residual grade 2 endometrial cancer with superficial MI and grade 1 endometrial cancer with deep MI were found at the fundus of hysterectomy specimens of both patients respectively. An emergency hysterectomy was performed in one patient for profuse uterine bleeding following fractional curettage. The remaining 2 patients who did not undergo endometrial curettage were aged 38 years and 62 years, respectively. The hysterectomy specimens revealed grade 1 endometrioid carcinoma with superficial MI and grade 2 endometrioid carcinoma with deep MI, respectively. If the excised uteri had been opened intra-operatively, the gross tumor should have been detected in these patients.

Of the 5 patients with endometrial hyperplasia on fractional curettage, two with complex hyperplasia had grade 1 endometrioid carcinoma involving uterine fundus without MI[1] and grade 3 endometrioid carcinoma invading through uterine serosa,[1] respectively. Of the remaining 3 patients with atypical hyperplasia, two had grade 1 endometrioid carcinoma in hysterectomy specimens, one with no MI and the other one with deep MI. The remaining one patient was diagnosed with grade 2 endometrioid carcinoma with deep MI. If the hysterectomy specimens had been opened intraoperatively, the macroscopic tumor must have been identified in these cases.

Endometrioid carcinoma was unexpectedly found in hysterectomy specimens of 4 patients with ovarian tumors, which were clear cell carcinoma,[2] tubo-ovarian abscess,[1] and endometrioma.[1] Of the 3 patients with pelvic mass, two had grossly grade 1 endometrioid carcinoma invading to the outer third of myometrium. The remaining one had grade 3 endometrioid carcinoma with cervical stromal invasion. Likewise, these gross tumors could have been diagnosed as malignancy if the specimens had been evaluated intraoperatively.

Grade 2 endometrioid carcinoma with deep MI was pathologically diagnosed in a hysterectomy specimen of one patient undergoing an operation for intractable vaginal discharge. In one instance, vaginal hysterectomy was performed for a uterine prolapse in a woman aged 50 years. Endometrial clear cell carcinoma with cervical stromal involvement was later detected in this patient. One patient who complaint of abnormal uterine bleeding, had endometrial polyps in the curetting specimen. Subsequent hysterectomy specimen revealed grossly grade 2 endometrioid carcinoma with superficial MI.

Discussion

Endometrial cancer is the third most common malignancy of the female genital tract in Thailand with the age-standardized incidence rate of 2.9 per 100,000 women. The highest rate is in Chiang Mai, accounting for 3.4 per 100,000 women.[4] Approximately 90% of patients with endometrial carcinoma present with abnormal vaginal bleeding or discharge.[5,6] Any woman suspected of having endometrial cancer should undergo endometrial biopsy, fractional uterine curettage or biopsy under hysteroscopy for a definite diagnosis. Because of the 10% false-negative rate of an endometrial biopsy, a negative finding in a symptomatic woman must be further investigated by fractional curettage or hysteroscopy.[5]

Ten of 19 patients with abnormal uterine bleeding in this study had not undergone fractional curettage, while the curetting specimens in the remaining 8 patients showed non-malignancy pathology. The other one patient needed an emergency hysterectomy for severe uterine bleeding following curettage. The endometrial tissue obtained from such procedure might be inadequate for pathologic evaluation. In preventive aspect of endometrial cancer found unexpectedly during the operation, it must be emphasized that every woman with abnormal

uterine bleeding should be investigated for the cause prior to definitive treatment. The surgical technique for endometrial curettage must be systematically, correctly, and thoroughly performed to remove the entire endometrium for accurate pathologic examination.

Eleven of 30 patients with endometrial cancer in this study presented with symptoms other than abnormal bleeding. Although infrequently found, endometrial cancer might be unexpectedly detected in patients undergoing hysterectomy for benign conditions, e.g. myoma uteri, endometrial hyperplasia, and prolapse uteri as shown in this report. Accordingly, irrespective of the indications for hysterectomy, the excised uterus must be routinely opened in the operation room to detect any evidence of endometrial cancer, i.e. exophytic or endophytic tumor growth. Although no typical gross appearance of an endometrial cancer is noted, most are polypoid or ulcerative with focal hemorrhagic areas. The tumor may be friable and might crumble with touch if there is prominent necrosis or papillary growth. Areas of myometrial invasion may be visible as gray-white or white, with yellow areas disclosing necrosis. The texture may be soft, friable, or firm depending on the degree of necrosis.[6] Gynecologic surgeons should be aware that endometrial cancer might be unexpectedly encountered in the uterus excised for any indication. The specimen must be routinely explored, should endometrial cancer be suspected or detected intraoperatively, confirmed diagnosis with a frozen section, if available, should be carried out so that complete staging procedures could be subsequently performed.

In conclusion, endometrial cancer might be detected in women undergoing hysterectomy for benign conditions. This situation is best avoided by careful evaluation of the patients with abnormal uterine bleeding before definitive treatment. The entire endometrium must be removed during curettage for accurate pathologic diagnosis. Routine opening of the hysterectomy specimens in the operation room is mandatory to visualize any evidence of endometrial cancer.

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