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Resectoscopic surgery may be an alternative to hysterectomy in high-risk women with atypical endometrial hyperplasia

Fawaz Edris, MD, George A. Vilos, MD, Awatif AL-Mubarak, MD, Helen C. Ettler, MB ChB, Jackie Hollett-Caines, MD, and Basim Abu-Rafea, MD

From the Department of Obstetrics and Gynecology (Drs. Edris, Vilos, AL-Mubarak, Hollett-Caines, and Abu-Rafea), and Department of Pathology (Dr. Ettler), The University of Western Ontario, London, Ontario, Canada.

KEYWORDS:
Abnormal uterine bleeding;
Atypia;
Endometrial hyperplasia;
Hysteroscopy;
Resectoscopic surgery

Abstract

STUDY OBJECTIVE: Endometrial hyperplasia is found in 2% to 10% of women with abnormal uterine bleeding (AUB). Up to 43% of patients with cytologic atypia harbor coexisting adenocarcinoma, and approximately 20% to 52% of atypical hyperplasias, if untreated, progress to cancer. The objective of this study was to estimate the incidence of atypical endometrial hyperplasia encountered during routine resectoscopic surgery in women with AUB and to evaluate the role of resectoscopic surgery in the management of women with AUB and atypical endometrial hyperplasia who refused and/or were at high risk for hysterectomy.

DESIGN: Prospective cohort study (Canadian Task Force classification II-3).

SETTING: University-affiliated teaching hospital.

PATIENTS: From January 1990 through December 2005, the senior author (GAV) performed primary resectoscopic surgery in 3401 women with AUB. Among these, there were 22 women with atypical (17 complex, 5 simple) endometrial hyperplasia.

INTERVENTIONS: All women underwent hysteroscopic evaluation and partial (n = 3) or complete (n = 19) endometrial electrocoagulation and/or resection. Subsequently, 6 women had hysterectomy and bilateral salpingo-oophorectomy (BSO).

MEASUREMENTS AND MAIN RESULTS: The median (range) for age, parity, and body mass index were 55 years (24–78 years), 2 (0–4), and 30.1 kg/m^2 (22.5–52.2 kg/m^2), respectively. Among the 3401 women, there were 22 cases of atypical endometrial hyperplasia, 12 of which were incidentally diagnosed at the time of hysteroscopy (complex 10, simple 2, incidence 0.35%). After hysteroscopic diagnosis or confirmation of diagnosis, 6 women underwent hysterectomy and BSO. Of the remaining 16 women, followed for a median of 5 years (range 1.5–12 years), 1 was lost to follow-up, 1 had only a biopsy to preserve fertility, 1 died from lung cancer after 4 years, and 1 died from colon cancer after 5 years. One patient developed endometrial cancer after 10.5 years with postmenopausal bleeding. She remains alive and well 3.5 years after hysterectomy and BSO. The remaining 11 patients are amenorrheic at a median follow-up of 6 years (range 1.5–12 years).

CONCLUSIONS: Resectoscopic surgery in 3391 women with AUB detected 12 incidental cases of atypical endometrial hyperplasia (incidence 0.35%). Skillful resectoscopic surgery may be an alternative to hysterectomy in women with AUB and atypical endometrial hyperplasia, who refuse or are at high-risk for hysterectomy and who are compliant with regular and long-term follow-up.

Corresponding author: George A. Vilos, MD, Department of Obstetrics and Gynecology, 268 Grosvenor Street, London, Ontario, Canada, N6A 4V2.
E-mail: george.vilos@sjhc.london.on.ca
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Endometrial hyperplasia is a noninvasive proliferation of the stromal and epithelial components of the endometrial tissue. Based on a variety of cytologic and architectural changes, endometrial hyperplasia constitutes a heterogeneous group of lesions that vary from simple exaggeration of the normal proliferative state at one extreme to changes closely resembling adenocarcinoma at the other. The International Society of Gynecological Pathologists and the World Health Organization classify endometrial hyperplasia as simple and complex, with or without atypia.[1–4] Atypical hyperplasia designates proliferation of glands that is associated with cytologic atypia in which various degrees of nuclear atypia and loss of polarity are present.

Abnormal uterine bleeding (AUB) is experienced by 10% to 30% of reproductive-aged women.[5,6] Endometrial hyperplasia is found in 2% to 10% of women with AUB.[7–11] Traditionally, investigation of AUB included fractional dilatation and curettage (D&C) in the operating room under general anesthesia. It has been reported that D&C provides adequate sampling in 75% of women, and misses up to 10% of pathology.[12]

Hysteroscopic endometrial ablation was introduced in the 1980s, while nonhysteroscopic or global endometrial ablation was introduced in the 1990s. Both were designed as alternatives to hysterectomy for treatment of women with AUB of benign pathology.[13] Before endometrial ablation, it is recommended that AUB be investigated in accordance with established clinical practice guidelines.[14] Such guidelines recommend that office endometrial biopsy or D&C in the operating room be performed in all women with postmenopausal bleeding and in premenopausal women with certain risk factors, such as irregular bleeding, age greater than 45 years, obesity (weight $>$ 90 kg or body mass index $>$ 27 kg/m^2), personal history of polycystic ovarian syndrome, infertility, nulliparity, or family history of endometrial or colon cancer.[14] All of these have been shown to be independent risk factors for endometrial hyperplasia and carcinoma in women with AUB.[11,15,16] Office endometrial biopsy is occasionally impossible to perform or provides an inadequate sample due to technical issues, cervical stenosis, or other patient conditions such as morbid obesity and discomfort. Under such circumstances, we have adopted the philosophy of performing hysteroscopic evaluation with directed biopsies or endometrial resection in the operating room under appropriate anesthesia and optimal medical conditions.

Due to possible progression of atypical endometrial hyperplasia to endometrial carcinoma, or their coexistence, the most appropriate treatment for atypical endometrial hyperplasia is considered to be hysterectomy and bilateral salpingo-oophorectomy (BSO).

In our current study, we present 22 women with AUB and atypical endometrial hyperplasia. In 12 women, prehysteroscopy office endometrial biopsy was inadequate; technically impossible; or reported as normal, proliferative endometrium or endometrial hyperplasia without atypia. Atypical endometrial hyperplasia was known preoperatively in 10 women. The purpose of the study was to estimate the frequency of atypical endometrial hyperplasia encountered during hysteroscopic endometrial ablation and to determine if hysteroscopic surgery can be used as an alternative to hysterectomy for patients with atypical endometrial hyperplasia when hysterectomy is difficult, risky, or refused.

Material and methods

From January 1990 through December 2005, the senior author (GAV) performed primary resectoscopic surgery using electrocoagulation with rollerball, resection with a loop electrode, or a combination of both in 3401 women with AUB. A 26F (~9 mm) diameter resectoscope (Storz, Tuttlingen, Germany) and 3- to 5-mm rollerballs or 8-mm diameter loop electrodes were used to coagulate or cut tissue at 100 $\pm$ 20 W of power. The uterus was distended/irrigated with 1.5% glycine solution at 100 cm H_2O (~75 mm Hg) pressure with 100 $\pm$ 20 mm Hg suction to evacuate air bubbles, clots, and debris from the uterus. As a rule, resection rather than rollerball ablation of the entire endometrium was performed in the absence of a recent ($<$6 months) negative endometrial biopsy; in the presence of intrauterine polyp(s), myoma(s), or suspicious lesion(s); and in women with any of the risk factors for endometrial neoplasia, as described above. Having adopted the above principles, we incidentally identified 12 atypical endometrial hyperplasia cases (10 complex [Table 1] and 2 simple [Table 2]).

Results

The characteristics of the patients, preoperative endometrial biopsy, hysteroscopic findings and treatment, post-hysteroscopy pathology and treatment, and clinical outcomes are also listed in the corresponding tables. Case histories of the first 7 patients of Table 1 and first 3 patients of Table 2 have been previously published.[17]

Table 1 includes 17 women with atypical complex endometrial hyperplasia. Seven of these were known to have atypical hyperplasia before hysteroscopic surgery. These women declined or were at high risk for hysterectomy and BSO. They consented only to hysteroscopic evaluation and possible endometrial resection. One of seven women (No. 11, TC) wished to preserve her fertility. Complete resection was done in 6 women, and the seventh (TC) had only a biopsy. Except in 1 woman (No. 7, SM), histopathologic evaluation confirmed atypical endometrial hyperplasia. Of the 6 women who had complete endometrial resection, 1 was lost to follow-up (No. 5, FH), and the other 5 remain amenorrheic after a median follow-up of 4 years (range 1.5–6 years). The woman who wished to retain fertility also remains alive and well after 4 years of follow-up. She had