Diagnosis of Intracavitary Uterine Diseases in Postmenopausal Women by Hysteroscopy

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ABSTRACT

Objective: To reveal the hysteroscopic findings among postmenopausal women who were subjected to diagnostic hysteroscopy method.

Methods: This is a descriptive study which was conducted at King Hussein Medical Center within the period from January 2008 to Janunary 2010, on a total of 215 postmenopausal women. Mean age of the study group was 58 years (range 46-70). Hysteroscopy was carried out to detect intracavitary disease, either by hysteroscopic view or using histopathological biopsies for other diseases. Simple descriptive statistics (frequency, mean age and percentage) were used to describe the study variables.

Results: The histopathological and hysteroscopic findings were as follows: polyps in 122 (56.7%) patients, atrophic endometrium in 44 (20.5%) patients, synechia in 22 (10.2%) patients, fibroid in 13 (4.6%) patients, endometrial hyperplasia in seven (3.3%) patients, focal thickening seven (3.3%) patients.

Conclusions: The most frequent findings at hysteroscopy for postmenopausal women with bleeding were benign lesions. Hysteroscopy using biopsy is a selective method for detecting intracavitary uterine disease.

Key words: Endometrial biopsy, Endometrial thickness, Hysteroscopy, Postmenopausal.

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Introduction

Endometrial epithelial gland cells proliferate as a result of the effect of estrogens, which would ultimately result in hyperplasic growth and eventually endometrial cancer. Such proliferative effects are counterbalanced by progesterone secretory effect.[1,2] Atypical hyperplasia carries the highest risk of progressing to cancer. The risk of hyperplasia with no atypia, progressing to carcinoma is 1% in simple cases, and 3% in complex ones. The corresponding risk for atypical hyperplasia is 8% in simple cases and 29% in complex ones.[3] Hysteroscopy is the most appropriate method for evaluating the uterine cavity disease in women presenting endometrial thickening with symptoms or not. A dynamic examination may be carried out in an outpatient setting, which allows a direct view of the endometrium. The main advantage is that biopsies are possible, which improves diagnostic accuracy, particularly in focal lesions.[4]

Transvaginal ultrasound is essential to assess the causes of postmenopausal bleeding

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endometrium in asymptomatic patients, and any pelvic cavity alteration like prolapsed uterus. However, ultrasound may not differentiate between polyps, hyperplasia and proliferative phenomena due to hormone therapy. Moreover, it may not identify the exact location of submucosal or intramural myomas.[5] Smith-Bindman showed that ultrasound is highly sensitive for detecting endometrial abnormalities (92%) when using a 5mm endometrial thickness as a cutoff point; specificity, however, is low (61%).[6] Costs and anxiety increase, when ultrasound suggests an abnormality and pathological examination does not reveal any endometrial disease.

Genital bleeding is the main clinical manifestation of endometrial carcinoma. However, most women are asymptomatic. Thus, the importance of investigating endometrium to detect precancerous lesions and the carcinoma itself increases. The most important screening methods for intrauterine cavity disease are: endometrial histopathology, uterine curettage and hysteroscopy.[7]

Cancer of the uterine body is the most common gynecological malignancy in the United States of America.[8] As female life expectancy increases worldwide, especially in developed countries, the natural course of other gynecological tumors is altered by preventive and screening measures.[9,10]

Our study was conducted to reveal hysteroscopic findings in postmenopausal women who were subject to diagnostic hysteroscopy method.

Methods

This is a descriptive study which was conducted at King Hussein Medical Center within the period from January 2008 to January 2010 on a number of 215 postmenopausal women. Mean age of the study group was 58 years (range 46-70). Hysteroscopy was performed as a day case in theatre. Hysteroscopy was performed to detect the intracavitary disease by hysteroscopic view and for other diseases using histopathological biopsies. A Storz Hamou II micro-hysteroscope (4mm diameter optics, 30 degree angle and 5.0 mm sheath), pressure and flow electronic controls were used.

Women above age 50, had one year amenorrhea and considered as being menopausal in which transvaginal ultrasound had shown endometrial thickening. The present study included postmenopausal women, regardless of hormonal therapy. The exclusion criteria were as follows: previously diagnosed gynecologic cancer; cases with inability to perform hysteroscopy or obtain material from the uterine cavity for pathology.

Endometrial biopsies were taken for all postmenopausal women who were subject to hysteroscopy from suspected alterations; a 3mm Novak curette coupled to a 20ml disposable syringe was used. The biopsied material was placed immediately in 10% formaldehyde and sent for histopathological analysis. Simple descriptive statistics (frequency, mean range and percentage) were used to describe the study variables.

Results

Endometrial thickness ranged from 4 to 36 mm in 215 sample cases. Table I shows the histopathological findings in samples who were subject to diagnostic hysteroscopy and were as follows: polyps in 122 (56.7%) patients, atrophic endometrium in 44 (20.5%) patients, synechia in 22 (10.2%) patients, fibroid in 13 (4.6%) patients, endometrial hyperplasia in seven (3.3%) patients, focal thickening seven (3.3%) patients.

Table II presents the hysteroscopic findings according to endometrial thickness, cerebroid appearance, polyp and endometrial hyperplasia prevailed when the endometrial thickness was 12-14mm. An atrophic endometrium, focal thickening, synechia, a proliferative endometrium and cystic atrophy were more observed when the endometrial thickness varied from 6 to 9mm. Myomas and mucus predominated, when the endometrial thickness was 4 to 8mm successively.

Hysteroscopy findings suggested polyps in 122 patients, of which histology revealed endometrial polyps in 85 patients, atrophic endometrium in seven patients, endometrium with no atypias in 22 patients, secretory endometrium in 2 patients and proliferative endometrium in 4 patients.

A number of hysteroscopic findings were associated with postmenopausal endometrial thickening, other than polyps (55.6%) and endometrial atrophy (16.7%).

Table I: Histological findings among study group

Findings	Number	%
Polyp	122	56.7
Atrophic endometrium	44	20.5
Synechia	22	10.2
Myoma	13	6
Cerebroid appearance lesion	7	3.3
Endometrial Hyperplasia	7	3.3

Table II: The hysteroscopic findings according to endometrial thickness among the study group

Hysteroscopic findings	Endometrial thickness
Cerebroid appearance lesions	12-14mm
Polyp	>10mm
Hyperplasia	10mm
Synachia	8-9mm
Atrophic endometrium	6-9mm
Myoma	4-8mm

Table III: Histological findings in Myoma

Histological Findings	Number	(%)
Atypia-free endometrium	7 cases	53.8
Proliferative endometrium	4 cases	30.8
Secretory endometrium	1 case	7.7
Polyp	1 case	7.7

There is an association between bleeding and polyps, Cerebroid lesions and endometrial hyperplasia among 44 cases suggesting atrophic endometrium, consistency with the histological diagnosis was found in 12 cases. In another 18 cases, the histological diagnosis was an endometrium with no atypia, and in 14 cases it was a secretory endometrium.

For cases in which hysteroscopy suggested a diagnosis of myoma the following histological findings were demonstrated; Table III demonstrated the histological findings in myoma; atypia-free endometrium in 7 cases, proliferative endometrial in 4 cases, secretory endometrium in one case, and polyp in another one case. Noteworthy is that biopsies were taken from endometrium, not from myomas; thus, they were guided but non-directed.

Discussion

Endometrial thickness should be 4-5mm as measured by ultrasonography. The endometrial echo is 5mm or more, which does not mean that there is endometrial disease but also means that ultrasound is unable to exclude intracavitary uterine disease. Investigation must, therefore, be supported by hysteroscopy.[1] In our study, the most common hysteroscopic findings were benign lesions like polyps and uterine fibroids in 62.8.% (n=135) of the cases. Histological findings in myoma were similar to other studies. In cases suggesting synechia, histopathological findings were an endometrium with no atypias in 14 cases, atrophic and proliferative endometrium in 6 cases, and a secretory endometrium as well as cystic atrophy in 2 cases. Accorsi Neto *et al.* studied 58 postmenopausal patients with an endometrial echo ≥4mm, and showed that polyps were the main cause of endometrial thickening in 30 cases (51.7%).[7] Loizzi *et al.* also showed that polyps were the main lesions which were mistaken for endometrial thickening; this occurred in 23.2% of 155 patients.[8] Litta *et al.* studied 146 patients and found that polyps and myomas were present in 86 patients (59%), and endometrial cancer was found in 11 patients (7.5%).[9] Campaner applied a 5mm cut off point and verified that polyps predominated in 42.1%, followed by endometrial atrophy (12.4%) and Synachia (12.4%). hysteroscopic and histopathological findings in patients with hyperplasia and endometrial cancer.[10] Guided hysteroscopic biopsies were performed, rather than directed biopsies. These authors correlated their low diagnostic rates for myomas, neoplasms and endometrial hyperplasia to the use of guided biopsies. Under similar conditions Loizzi *et al.* studied 155 postmenopausal patients with endometrial thickening ≥4 mm. Histology confirmed 9 cases of hyperplasia, 9 cases of submucosal myoma and 36 of polyps.[8] There was consistency in 99 of 101 hysteroscopic findings of atrophy; the diagnosis was endometrial hyperplasia in two cases. The highest frequency of endometrial cancer is after menopause; the mean age for this is around 60 years,[11-14] although patients with postmenopausal uterine bleeding or endometrial thickening in ultrasound (≥6mm) may have benign diseases.[15] An investigation of the uterine cavity with histology of the endometrium is mandatory.

Conclusions

The most frequent findings at hysteroscopy for postmenopausal women with bleeding were benign lesions. Hysteroscopy with biopsy is

mandatory for all postmenopausal women to detect intracavitary uterine diseases. Further analytical studies are necessary to enrich our knowledge of intracavitary uterine disease in postmenopausal women who were subject to diagnostic hysteroscopy.

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