

Hysteroscopy In Postmenopausal Bleeding

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Abstract

Introduction

Postmenopausal bleeding is defined as blood loss occurring at least 12 months after menopause. The high possibility of endometrial carcinoma in postmenopausal women warrants that any patient who is symptomatic with PMB should be presumed to have endometrial cancer until the diagnostic evaluation process proves she does not.

Aims and objectives

1. Hysteroscopic evaluation of uterine cavity and hysteroscopic guided endometrial biopsy in postmenopausal bleeding.
2. Evaluation of the etiology of postmenopausal bleeding.
3. Correlation between hysteroscopic, histopathologic and transvaginal findings.

Material and methods

The study was conducted at Department of Obstetrics and Gynecology, Government Medical College and Rajindra Hospital, Patiala. Sixty postmenopausal women with complaint of bleeding per vaginum were included after exclusion criteria. Clinical and sonographic evaluation, followed by diagnostic and/or therapeutic hysteroscopy and guided biopsy. Hysteroscopic images were analyzed and compared with histopathologic results.

Results

On hysteroscopy, endometrium was classified as suggestive of atrophic, endometrial hyperplasia or endometrial carcinoma. Histopathologic diagnosis was taken as a gold standard to determine the efficacy of hysteroscopy in diagnosing endometrial pathologies. The sensitivity and specificity of hysteroscopy in diagnosing endometrial pathologies was assessed.

Conclusions

The goal of evaluation of Postmenopausal bleeding is to make the accurate diagnosis with the least risk and expense for the patient. With the advent of hysteroscopy in the last two decades, focus has shifted from endometrial biopsy to hysteroscopic – guided biopsy as a "gold standard" diagnostic tool in the evaluation of Postmenopausal bleeding. The overall sensitivity, specificity and diagnostic accuracy hysteroscopy were 97.2%, 100% and 98.3% respectively. Hence, we can conclude that it is highly accurate for evaluating endometrial pathologies. For obvious benign lesions, it also provides treatment in the same sitting.

Keywords: Hysteroscopy, hysteroscopy-guided biopsy, postmenopausal bleeding

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I. Introduction

Postmenopausal bleeding is defined as blood loss occurring at least 12 months after menopause[1]. It is more likely caused by pathologic disease as compared to bleeding in younger women, and it must always be investigated. Following are the common causes of postmenopausal bleeding:

- Exogenous estrogens
- Atrophic endometritis/vaginitis
- Endometrial cancer
- Endometrial or cervical polyps
- Endometrial hyperplasia [2]

The average age of menopause in Asian women is 46 years. The incidence of PMB is approximately 10-15 %. Women with PMB have 10-15% chance of having endometrial cancer[3]. The high possibility of endometrial carcinoma in postmenopausal women warrants that any patient who is symptomatic with PMB should be presumed to have endometrial cancer until the diagnostic evaluation process proves she does not.[4] Hence, immediate evaluation is required.

The goal of evaluation of Postmenopausal bleeding is to achieve the diagnosis with greatest accuracy , minimal risk and expense for the patient. With the advent of hysteroscopy in the last two decades, focus has shifted from endometrial biopsy to hysteroscopic - guided biopsy as a "gold standard" diagnostic tool in the evaluation of Postmenopausal bleeding.[5]

Aims and objectives

1. Hysteroscopic evaluation of uterine cavity and hysteroscopic guided endometrial biopsy in postmenopausal bleeding.
2. Evaluation of the etiology of postmenopausal bleeding.
3. Correlation between hysteroscopic, histopathologic and transvaginal findings

Patients

The present study was carried out in 60 patients presenting with postmenopausal bleeding to the OPD of Department of Obstetrics and Gynaecology, Government Medical College and Rajindra Hospital, Patiala.

Inclusion Criteria:

Following patients were included -

- Patients with post-menopausal bleeding.

Exclusion Criteria

The following patients were excluded -

- Women taking hormonal replacement therapy.
- Obvious cause of bleeding from cervix and vagina.
- Known blood dyscrasias.
- On anticoagulant therapy.
- Surgical menopause

A complete detailed history to find out cause of postmenopausal bleeding was taken including age, parity, menstrual history, obstetric history, medical history, surgical history and personal history. General physical examination, per abdomen, local examination, per speculum and per vaginam examination were performed.

The endometrial thickness (ET) was measured on TVS. Other parameters like polyp, fibroid, growth, adnexal and uterine pathology were noted.

Gebrauchsanweisung – Diagnostic 4mm rigid Karl Storz Aida @ WD200 and WD 250 endoskope was used with a 30 degree oblique aperture view with a 5 mm sheath.

Hysteroscope was then introduced into uterine cavity. Cavity was distended with normal saline. Cervical canal, internal os, all walls of uterus, cavity, fundus, and the tubal ostia were examined. Findings were recorded as atrophic endometrium, endometrial hyperplasia, endometrial polyp, fibroid, and endometrial carcinoma (obvious intrauterine growth with necrotic tissue). Endometrial biopsies were taken in all patients. Polypectomy was done in required cases.

Histopathological examination was done and was considered as the final diagnosis.

II. Results And Discussion

The uterine causes of PMB and the percentage of patients who seek treatment for these conditions are presented in Table no 1.

In our study, we have evaluated all cases of PMB with hysteroscopy and guided biopsy.

Out of 60 patients, 24 (40%) were in the age group 45-54 years, 26 (43.33%) in the age group of 55-64 years and 10 (16.67%) were in the age group of ≥ 65 years. The mean age was 57.50 ± 7.6 years. The mean age at menopause was 48.95 ± 3.06 years. As per Straws classification the patients with duration of menopause ≤ 6 years (Stage 1) were 53.33% and those with > 6 years (Stage 2) were 46.67% in the present study. Mean duration of menopause was 8.6 ± 7.2 years. The mean BMI was 26.00 ± 3.50 kg/m² with 45% patients having BMI < 25 kg/m² and 55% patients had BMI ≥ 25 kg/m². 6.6% patients were of low parity ≤ 1 child and 28.34% patients had > 3 children. Majority 65% had 2 or 3 children. 41.67% patients had history of hypertension, 26.67% patients had diabetes mellitus, 13.33% patients had hypothyroidism while there were 5% patients with

breast cancer and history of AUB each. 31.66% patients had no medical history. There were some patients who had more than one medical disorder.

Atrophic endometrium was most frequent finding in post menopausal bleeding (40.00%) followed by endometrial hyperplasia and polyp in 18.33% each. 13.33% had carcinoma endometrium and 10% of the patients had fibroid. All these observations were comparable to the most of the international studies.

The incidence of endometrial carcinoma (13.33%) is comparable to that in a previous study by Pacheco *et al*, in which incidence of endometrial cancer in patients with PMB was 10–14%.

In the present study, that atrophic endometrium was the leading cause of post menopausal bleeding (40.00%) followed by endometrial hyperplasia and polyp each 18.33%. 13.33% of the patients had carcinoma endometrium and 10% of the patients had fibroid. The incidence of atrophy, carcinoma and polyp in the present study were almost to similar to that of Sousa *et al* (2001)[6] and Tandulwadkar *et al* (2009)[2] and differ from that of Bingol *et al* (2011) and Solanki *et al* (2019) whereas the incidence of hyperplasia was not similar to that reported by other authors. Solanki *et al* (2019) and Bingol *et al* (2011)[7] reported a higher incidence and other reported a lower incidence of hyperplasia than the present study. This could be due to difference in population.

In our study, the sensitivity of hysteroscopy in diagnosing endometrial pathologies was 97.2% , in accordance with a value of 97% obtained in a study by Ribero *et al*, in November 2007.[8]

It is apparent that hysteroscopy is much more sensitive than TVS in the detection of focal endometrial pathologies such as endometrial polyp (90.9 and 54.5%, respectively). Rather, the technical improvements have made hysteroscopy most suitable for office use. Also the specificity of hysteroscopy is more than TVS in diagnosing various endometrial conditions (97.2%and 94.4%, respectively)

Table 1
Characteristics Of Participants

Characteristic	Groups	No. of patients	Percentage
Age	45-54	24	40%
	55-64	26	43.33%
	>65	10	16.67%
Occupation	Housewife	49	81.67%
	Working	11	18.33%
Education	High school and above	17	28.33%
	Upto high school	21	35%
	Illiterate	22	36.67%
Area	Rural	18	30%
	Urban	42	70%

Table 1

Causes of postmenopausal uterine bleeding

Causes of bleeding	Percentage	Our study (%)
Atrophic endometrium	60–80	40.00
Exogenous estrogens	15–25	Excluded
Endometrial cancer	10	13.3
Endometrial polyps	2–12	18.33
Endometrial hyperplasia	5–10	18.33
Others (cervical cancer, urethral caruncle, trauma, etc.)	5–10	Fibroid 10.00

Table 2

Distribution of cases according to the age at menopause

Age of attaining menopause (years)	No. of women with PMB
<45	4 (6.67)
45–55	56 (93.3)

Figures in parenthesis are in percentage.

Table 3

Distribution of the cases according to the body mass index

BMI	No. of women with PMB	Percentage
<18.5 (Underweight)	1	1.67
18.5–24.9 (Healthy weight)	26	43.33

25–29.9 (Overweight)	26	43.33
>30 (Obese)	7	11.67

Table 5

Distribution of the cases according to the parity

Parity	No. of women with PMB	Percentage
Nullipara	2	3.33
Primipara	2	3.33
Multipara	56	93.34

Table 6

Correlation between co-morbid conditions and carcinoma of endometrium

Co-morbid conditions	percentage of women with carcinoma of endometrium
Diabetes mellitus	50 % had diabetes
Hypertension	100% had hypertension
Hypothyroidism	None had hypothyroidism
BMI > 30 (obese)	No patient was obese

Table 7

Correlation between ET on TVS and PMB

ET TVS (mm)	No. of women with PMB	Percentage
≤4	25	41.67
>4	35	58.33

Table 8

Incidence of various suspicious endometrial pathologies on TVS and hysteroscopy causing PMB

Diagnosis	TVS	Hysteroscopy	HPR
Atrophic endometrium	25 (41.67)	25 (41.67)	24 (40)
Endometrial hyperplasia	16 (26.67)	11 (18.33)	11 (18.33)
Endometrial polyp	6(10)	11 (18.33)	11 (18.33)
Submucous fibroid	8 (13.33)	6 (10)	6(10)
Carcinoma of endometrium	5 (8.33)	7 (11.67)	8 (13.33)

Figures in parentheses are in percentage

Table 9

Sensitivity and specificity of TVS and hysteroscopy for diagnosing endometrial pathologies casing PMB

Diagnosis	TVS		Hysteroscopy	
	Sensitivity (%)	Specificity (%)	Sensitivity (%)	Specificity (%)
Atrophic endometrium	95.8	94.4	100	97.2
Endometrial hyperplasia	100	89.8	90.9	98.2
Endometrial polyp	54.5	100	90.9	98.2
Submucous fibroid	100	96.3	100	100
Carcinoma of endometrium	62.5	100	87.5	100

III. Conclusions

1. The mean age of the patients presenting was 57.50±7.6 years and the mean age of attaining menopause was 48.95±3.06 years. Mean duration of menopause was 8.6±7.2 years
2. The most common finding on histopathology was atrophic endometrium (40%), followed by endometrial hyperplasia and endometrial polyp each (18.33%), followed by carcinoma endometrium (13.33%) and submucosal fibroid (10%).

3. The overall sensitivity, specificity and diagnostic accuracy of TVS was 94.4%, 95.8% and 95% respectively while that of hysteroscopy were 97.2%, 100% and 98.3% respectively.
4. In post menopausal bleeding hysteroscopy is a valuable diagnostic tool for all endometrial lesions with TVS as the screening tool.

Though a larger study with a bigger sample size is definitely recommended, from our study it can be definitely concluded that hysteroscopy is a safe, highly sensitive diagnostic procedure in the evaluation of patients with postmenopausal bleeding.