

# Evaluation of Endometrium in Postmenopausal bleeding women

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## Abstract

**Background:** Postmenopausal bleeding (PMB) is one of the most frequent reasons for referral to gynecologist **Objective:** To investigate the clinical implication and endometrial pathological changes in patients with postmenopausal bleeding. **Methods:** A prospective study conducted on postmenopausal women. About 130 patients (aged between 50-60 years) with postmenopausal bleeding were selected and these patients were evaluated by curettage, pelvic ultrasound and endometrial histology. **Results:** The commonest finding of pelvic USG was increased endometrial thickness (>4mm) (75%). The histopathological analysis showed proliferate endometrium (31.6%), atrophic endometrium (26.1%), cystoglandular hyperplasia (12.3%) and endometrium hyperplasia (10.6%). Incidence of cervical and endometrial carcinomas was 6.3% and 4.5%, respectively. **Conclusion:** the postmenopausal bleeding should be careful and timely assessed to eliminate the possibility of malignancy as soon as possible.

**Keywords:** Postmenopausal bleeding, Endometrial thickness, Pelvic ultrasound

## Introduction

WHO defines menopause as permanent cessation of menstruation resulting from loss of ovarian activity [1]. Postmenopausal bleeding (PMB) is defined as abnormal uterine bleeding occurring after 1 year of menopause. Common menopausal age in Indians is 45 – 50 years. Postmenopausal women constitute only 1% of female population. Postmenopausal bleeding represents one of the most common reasons for referral to gynaecological services, largely due to suspicion of an underlying endometrial malignancy [2]. A woman not taking hormone replacement therapy (HRT) who bleeds after the menopause has a 10% risk of having genital cancer and a further 10% risk of significant pathology [3]. Therefore, postmenopausal bleeding should always be investigated no matter how minimal or non-persistent.

Etiology of post-menopausal bleeding include: non-gynaecological causes like trauma or a bleeding disorder, use of hormone replacement therapy, vaginal atrophy, endometrial hyperplasia (simple, complex, and atypical), endometrial carcinoma usually presents as PMB but 25%

occur in premenopausal women. Other causes include endometrial polyps or cervical polyps, carcinoma of cervix, uterine sarcoma, ovarian carcinoma (especially oestrogen-secreting ovarian tumours), vaginal carcinoma which is very uncommon & carcinoma of vulva may bleed, but the lesion should be obvious [3-7].

Ultrasound pelvis is an appropriate first-line procedure to identify which woman with post-menopausal bleeding is at higher risk of endometrial cancer. In general if thicker the endometrium there are higher the probability of important pathology. Hysteroscopy and biopsy (curettage) is the preferred diagnostic technique to detect benign lesions. As such there are several investigations available to complement clinical evaluation, including ultrasound, endometrial histology and hysteroscopy to evaluate the underlying etiology of PMB [8-12].

A number of studies on clinical evaluation of PMB in postmenopausal women have been conducted worldwide, but there are few reports from India and none from our teaching hospital to determine the problem and the risks in the rural population. So this study was aimed to analyze the age predilection, incidence of malignancies, clinical

Manuscript received: 7<sup>th</sup> September 2016

Reviewed: 16<sup>th</sup> September 2016

Author Corrected: 24<sup>th</sup> September 2016

Accepted for Publication: 30<sup>th</sup> September 2016

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presentation and histopathological diagnosis of post menopausal bleeding.

## Methods

**Design of Study:** This prospective cross sectional study conducted between January 2014- December 2015.

**Setting:** Gynecology OPD of Kerala Medical College and Hospital, Palakkad, Kerala. **Study population:** A total of 130 cases attending gynecology OPD who presented clinically with postmenopausal bleeding were selected. All the patients gave history of genital tract bleeding varying from spotting per vagina, scanty flow, moderate to profuse bleeding. **Inclusion Criteria:** Women with abnormal uterine bleeding more than 40 years of age.

**Exclusion Criteria:** Hormone therapy in last 6 months, Positive pregnancy test and cases with cervical, uterine, or adnexal pathology on clinical examination or ultrasound.

**Method of study:** The age of the patients was recorded. Full assessments were done by history, physical

examination & investigations which include complete blood picture, fasting blood sugar & pelvic ultrasound. Pap smear and diagnostic curettage were performed. The specimens from endometrial biopsy/curettage were sent for histopathological evaluation.

The slides were reviewed and classified using current pathological criteria. The endometrial specimens were divided into the following histological categories: atrophy; proliferation; secretion; endometrial poly; simple or cystic hyperplasia; adenomatous hyperplasia; atypical hyperplasia; carcinoma and others. Measurement of endometrial thickness by pelvic ultrasound having a cut-off of >4mm yields 98% sensitivity for detection of endometrial cancer. The present study was approved by our institutional ethics board. **Statistical analysis:** Values are expressed as percentage (%). Data was analyzed by using software SPSS 16.0 for Windows (SPSS 16.0, SPSS Inc., Chicago, IL).

## Results

Patients' characteristics of PMB patients are displayed in Table 1. Most of postmenopausal bleeding patients were between 50-60 years (56.6%) and were multiparous (90%). 36.6% and 43.3% of patients were having hypertension and overweight, respectively. 13.3% of women were suffering from diabetes mellitus.

**Table-1: Distribution of age, parity and medical history of menopausal women.**

	No. of patients (N=130)	Percentage (%)
Age of menopause (yrs)		
40-45 yrs	30	19.6%
45-50 yrs	57	46.0%
>50yrs	43	34.3%
Age of postmenopausal bleeding (yrs)		
45-50 yrs	13	16.6%
50-60 yrs	84	56.6%
>60yrs	33	13.3%
Parity		
Nullipara	02	6.7%
Para 2	01	3.3%
> multipara	27	90%
Medical disease		
Hypertension	40	36.6%
Diabetes mellitus	33	13.3%
Overweight	19	43.3%
Obesity	0	0%
Hypothyroidism	3	3.3%
No illness	19	3.3%
Hormonal intake	0	0%

The pelvic USG showed endometrial thickness of > 4mm in majority of cases (75%) & none had adnexal masses. 25% women had endometrial polyps. The uterine abnormalities observed are bicornuate uterus, pyometra and hematometria (Table 2).

**Table 2: Pelvic ultrasound findings of Post Menopausal bleeding patients.**

Endometrial thickness	Endometrial thickness>4mm	18%
	Endometrial thickness<4mm	80%
	Endometrial polyps	15%
Uterine abnormalities	Bicornuate uterus	3%
	Hematometra	30%
	Pyometra	28%
	Adenexal mass	0%
Uterine size	Enlarged uterus	20%
	Normal uterus	55%
	Atrophic uterus	25%

The fractional curettage showed that curettings were scanty in most of the cases in spite of thick endometrium. According to table 3, the common histopathology of endometrium was proliferative (31.6%), next common being atrophic endometrium (26.1%) & cystoglandular hyperplasia (12.3%). Other findings include endometrial hyperplasia (10.2%), endometrial polyps (9.9%), cervical carcinoma (6.3%) and endometrial carcinoma (4.5%).

**Table-3: Histopathological findings of Endometrium.**

Histopathological findings	No. of patients (n=130)	Percentage (%)
Proliferative	41	31.6%
Atrophic	34	26.1%
Cystoglandular hyperplasia	16	12.3%
Endometrial hyperplasia	13	10.2%
Endometritis	8	6.1%
Endometrial polyp	12	9.9%
Cervical carcinoma	7	6.3%
Endometrial carcinoma	5	4.3%
Fibroids	4	3.5%

## Discussion

Postmenopausal bleeding (PMB) is a sinister complaint of postmenopausal women. It is common between 5-10yrs after reaching menopause and common age predilection is between 50-60 yrs. Beyond this age, endometrial malignancy is more common. The peak incidence of malignancy was observed in the age group of 55-64 years [13]. Post menopausal bleeding has been evaluated by clinical examination, pelvic ultrasound, investigations like pap smear & fractional curettage in this study.

Most of PMB patients were multiparous (>3) associated with medical illnesses like HTN, DM & obesity. Pap smear performed routinely didn't yield any benefit in diagnosing the etiology of PMB. Pelvic USG showed endometrial thickness of > 4mm in majority of cases & none had adnexal masses.

Regarding fractional curettage, most of cases showed that the curetting were scanty in spite of thick endometrium. This aberration may be due to endometrial polyps on the thick endometrium & these polyps may not be amenable to blind curettage.

Commonest findings was proliferative endometrium, which suggests a high level of unopposed oestrogen stimulation, this can be endogenous or exogenous and lead to rapid progression to endometrial hyperplasia or cancer [14].

In this study, the second commonest findings was atrophic endometrium (26.1%) among other benign pathologies, which was also observed in previous studies by Caspi E et al[15] and Bani-Irshaid I and Al-Sumadi A [16]. The

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exact cause of bleeding from atrophic endometrium is not known. It is postulated to be due to anatomic vascular variations or local abnormal haemostatic mechanism [17-18].

Endometrial polyp (9%) & endometrial hyperplasia (10.2%) were the other frequent causes of PMB in our study. These results are similar to those found by Bafna et.al. where endometrial polyp & endometrial hyperplasia constituted one of the causes of postmenopausal bleeding [19].

Moreover, the incidence of endometrial adenocarcinoma and carcinoma cervix was 6.3 % and 4.5% respectively, which was much lower than the earlier studies done by Escoffery et al [ 5] and Udiqwe et al [ 20]. This might be due to less sample size or insufficient tissue for histopathological diagnosis.

The patients of this study were treated accordingly, PMB was managed conservatively for atrophic endometrium or endometritis or benign endometrial polyps. Whereas, precancerous histopathologies like cystoglandular hyperplasia, atypical hyperplasia, and complex hyperplasia were subjected to hysterectomy. About 28 patients underwent hysterectomy. Patients with malignancy were referred to cancer hospital for further management. Simple endometrial hyperplasia / proliferative endometrium were put under observation for recurrent episodes of bleeding.

Finally, this study was consistent with the earlier published research studies with reference to etiologies and risk factors associated with PMB. Hence, we recommend a regular follow-up of all women for a longer period of time may detect more women harboring endometrial cancer or hyperplasia, when they experience recurrent PMB. Such a policy may improve the ability to predict these diseases. This study had limitations, namely the retrospective study design, the extraction of information from patients' files, the relatively less number of patients, and the relatively short time of follow up. Therefore a large sample size prospective study with long term follow-up at least 5 years is required to establish the etiology, risks factors, incidence of malignancy and prognosis of the patients.

**Conclusion**

Women with a thick endometrial thickness (>4 mm) or histopathology showing a proliferative at the initial assessment are at risk. A methodical examination and specific management must be carried out for a woman who presents with PMB and also increased endometrial thickness using hysteroscopic assessment and other

investigations. Women with recurrent PMB after an initial negative assessment should be re-assessed because they may still have significant genital tract pathology.

**Funding:** Nil, **Conflict of interest:** Nil

**Permission from IRB:** Yes

**References**

1. Research on the menopause in the 1990s. Report of a WHO Scientific Group. World Health Organ Tech Rep Ser. 1996;866:1-107.
2. Hawwa ZM, Nahhas WA, Copenhaver EH. Postmenopausal bleeding. Lahey Clin Found Bull. 1970 Apr-Jun;19(2):61-70.
3. Astrup K, Olivarius Nde F. Frequency of spontaneously occur ring postmenopausal bleeding in the general population. Acta Obstetrica et Gynecologica Scandinavica 2004; 83(2):203-7.
4. Ronghe R, Gaudoin M. Women with recurrent postmenopausal bleeding should be re-investigated but are not more likely to have endometrial cancer. Menopause Int. 2010 Mar;16(1):9-11. doi: 10.1258/mi.2010.010008.
5. Escoffery CT, Blake GO, Sargeant LA. Histopathological findings in women with postmenopausal bleeding in Jamaica. West Indian Med J. 2002 Dec;51(4):232-5.
6. Gredmark T, Kvint S, Havel G, Mattsson LA. Histopathological findings in women with postmenopausal bleeding. Br J Obstet Gynaecol. 1995 Feb; 102(2):133-6.
7. Lee WH, Tan KH, Lee YW. The aetiology of postmenopausal bleeding—a study of 163 consecutive cases in Singapore. Singapore Med J. 1995 Apr; 36(2):164-8.
8. Kaur M, Singh R, Sharma M. Endovaginal sonographic evaluation of postmenopausal uterine bleeding. Journal of Clinical & Diagnostic Research 2010;(4): 2175-82.
9. Ferrazi E, Torri V, Trio D, Zannoni E, Filiberto S, Doedoni D. sonographic endometrial thickness: a useful test to predict atrophy in patients with postmenopausal bleeding. Italian multicenter study. Ultrasound Obstet Gynecol. 1996 May;7(5):315-21.
10. Sahdev A; Imaging the endometrium in postmenopausal bleeding. BMJ. 2007 Mar 24;334 (7594): 635-6.

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11. Smith-Bindman R, Weiss E, Feldstein V; How thick is too thick? When endometrial thickness should prompt biopsy in postmenopausal women without vaginal bleeding. *Ultrasound Obstet Gynecol.* 2004 Oct;24 (5): 558-65.
12. Gupta JK, Chien PF, Voit D, et al; Ultrasonographic endometrial thickness for diagnosing endometrial pathology in women with postmenopausal bleeding: a meta-analysis. *Acta Obstet Gynecol Scand.* 2002 Sep;81 (9):799-816.
13. Breijer MC, Timmermans A, van Doorn HC, Mol BW, Opmeer BC. Diagnostic strategies for postmenopausal bleeding. *Obstetrics and Gynecology International* 2010;2010:850812.doi:10.1155/2010/850812.
14. Pl So , Wk Sin, Hc Lee, Kc Au Yeung. Evaluation of Recurrent Postmenopausal Bleeding. *Hong Kong Journal of Gynaecology, Obstetrics and Midwifery* 2012; 12(1):69-79.
15. Caspi E, Perpinial S, Reif A. Incidence of malignancy in Jewish 13. women with postmenopausal bleeding. *Isr J Med Sci.* 1977 Mar;13(3):299-304.
16. Bani-Irshaid I & Al-Sumadi A. Histological findings in women with postmenopausal bleeding: Jordanian figures. *Eastern Mediterranean Health Journal* 2011; 17 (7) :582-86.
17. Fortier KJ. Postmenopausal bleeding and the endometrium. *Clinical Obstetrics and Gynecology* 1986; 29:44–5.
18. Gredmark T, Havel G, Mattsson L-A. Histopathological findings 15. in women with postmenopausal bleeding. *Br J Obstet Gynaecol.* 1995 Feb; 102(2):133-6.
19. Bifna UD, Shashikala P. Correlation of endometrial ultrasonography and endometrial histopathology in patients with postmenopausal bleeding. *Journal of the Indian Medical Association* 2006; 104 (11): 627-29.
20. Udigwe GO, Ogabido CA. A clinico-pathological study of cervical carcinoma in South Eastern Nigeria; a five-year retrospective study. *Niger J Clin Pract.* 2008 Sep;11(3):202-5.

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**How to cite this article?**

Narayanan V, Nair R. Evaluation of Endometrium in Postmenopausal bleeding women. *Obs Rev:J obstet Gynecol* 2016;2(3):30-34. doi: 10.17511/joog.2016.i03.02.

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