Al Ameen J Med Sci 2017; 10(3):189-193 ● US National Library of Medicine enlisted journal ● ISSN 0974-1143

ORIGINAL ARTICLE CODEN: AAJMBG

Clinicopathological study of endometrium in cases of post menopausal bleeding per vaginum

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Abstract: *Introduction:* A number of studies on clinical evaluation of post menopausal bleeding have been conducted worldwide but there are a few reports from India so this study was intended to present a hospital based survey to investigate the clinical significance of post menopausal bleeding in terms of etiology, risk factors, incidence of malignancy and histopathological evaluation. *Objectives:* a) To study the clinical features in a patient with post menopausal bleeding. b) To study the different pathological changes in endometrium in post menopausal bleeding patients. c) To study the effect of risk factors like diabetes, hypertension and obesity on histopathology. d) To evaluate the causes of post menopausal bleeding. *Materials and methods:* The study recruited 70 patients above the age of 45 years who presented with post menopausal bleeding. Histopathological examination was done. *Results:* Most common presenting complaint is bleeding per vaginum (43%), followed by recurrent bleeding (34%). Age ranged between 44-80 years. High incidence in age group of 50-54 years. Majority were multiparous (88%). In current study, 54.2% were diabetic, 51% obese and 45% hypertensive. 94% had benign pathology and only 6% showed malignant pathology. Majority cases had endometrial thickness 5-12 mm in transvaginal sonography. Majority had proliferative endometrium, followed by hyperplasia, atrophy, polyp and secretory endometrium. *Conclusion: a)* Every post menopausal bleeding case has to be thoroughly evaluated with history, examination (age, presence of diabetes, hypertension, BMI) and TVS. To improve diagnostic accuracy. b) Dilatation and curettage can provide sufficient diagnostic accuracy. c) Early diagnosis makes successful treatment of endometrial hyperplasia and endometrial cancer in post menopausal bleeding cases. d) Endometrial sampling is mandatory prior to therapeutic gesture.
Keywords: Post Menopausal Bleeding, Endometrial Hyperplasia, Proliferative Endometrium, Risk Factors.

Introduction

Post menopausal bleeding is that which occurs 12 or more months after the last menstrual period and accounts for 5 % of all Gynaecological patients [1]. It represents one of the most common reasons for referral to Gynaecological services.

Background: In India 3% of post menopausal women have post menopausal bleeding [2]. Post menopausal bleeding has 10% risk of genital cancer [3]. The main objective in the diagnostic workup of post menopausal bleeding is to exclude endometrial malignancy and any significant abnormality [4]. One third of endometrial carcinoma is thought to be preceded by hyperplasia probably due to unopposed estrogen [5]. Approximately 90% of women with endometrial carcinoma present with vaginal bleeding (post menopausal bleeding or abnormal uterine bleeding in the premenopausal patient)[6].

The appropriate evaluation of post menopausal bleeding is important for three reasons:

- It is estimated that on an average, women spend one third of their life after menopause.
- Survival of patients with endometrial carcinoma decreases with increasing stage and poorer histological differentiation.
- Lifetime risk of endometrial carcinoma is 1.1 %. Percent risk of death with endometrial carcinoma is 0.4%, reflecting good prognosis with early diagnosis.

Aims and Objectives:

1. To study the clinical features in a patient with post menopausal bleeding.
2. To study the different pathological changes in endometrium and endocervix in post menopausal bleeding.

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3. To study the relation of endometrial pathology to obesity, diabetes and hypertension.
4. To evaluate the causes of post menopausal bleeding.

Material and Methods

Study design: Observational and descriptive study.

Period: 4 years, 1st may 2012 to 1st may 2016.

Setting: Department of Obstetrics and Gynaecology, Shifaa hospital, Bangalore.

Sample size: 70 cases of age > 45 years.

Inclusion criteria: All post menopausal bleeding women included. Patients with Family history of breast, endometrial and ovarian carcinomas were excluded from our study.

Exclusion criteria: All women having clinical evidence of lesions in vulva, vagina and ectocervix are excluded from this study.

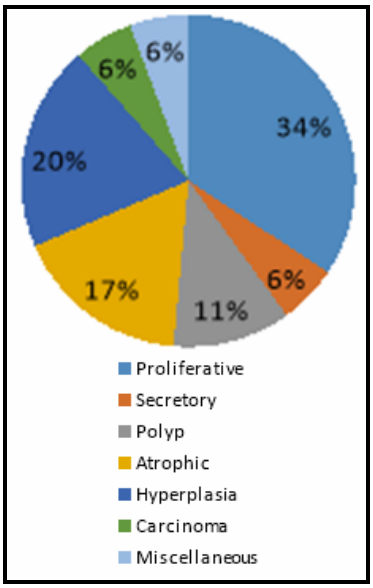
- Purpose of the study was explained to the patient/guardian in detail.
- Informed consent taken from all women who fulfilled the inclusion criteria.
- The cause of post menopausal bleeding was evaluated.
- Each patient who fulfills the above criteria was evaluated with history, general examination, speculum examination and laboratory investigations.
- *Detailed history included:* details of patient, presenting complaints, menstrual history, past medical history, drug history, family history and personal history.
- *Clinical examination included:* general physical examination, systemic examination that includes CVS/RS/Per abdomen and gynaecological examination.
- *Investigations included:* CBC, urine routine, FBS, PPBS, serum creatinine, blood urea, pap smear, pelvic ultrasound and diagnostic D&C.

In our hospital, all the patients who presented with post menopausal bleeding underwent hysterectomy (as surgical procedure reduces the risk of endometrial carcinoma who present with post menopausal bleeding at early stages, and as the patients belong to lower socio economic status, the compliance for follow up was poor). Observation and results were made from reports obtained from pap smear, diagnostic D&C, hysterectomy specimen examination, pelvic examination and laboratory results.

Results

In this study the total number of Gynaecological outpatients were 2340, out of which 70 cases were with postmenopausal bleeding who fulfilled the inclusion criteria. Incidence in our hospital was 3% of Gynaecology patients. Majority of cases 31% belonged to the age group 50-54. In this study, cases were based on histopathological examination of endometrium from diagnostic endometrial biopsy and hysterectomy specimens. Among them, majority were proliferative 34%, hyperplasia 20%, atrophic changes 17%, 11% showed polyp and 6% secretory endometrium. Miscellaneous (12%) were fibroid, adenomyosis and cancer (Fig-1) (Table 1).

Fig-1: HPR



Most of the patients (43%) presented with active bleeding per vaginum, 34% with recurrent vaginal bleeding and 23% with spotting per vaginum. Which was correlated with other studies [7-8]. Most of the patients presented between 6-10 years of menopause (40%) which correlated with kauser jillani et

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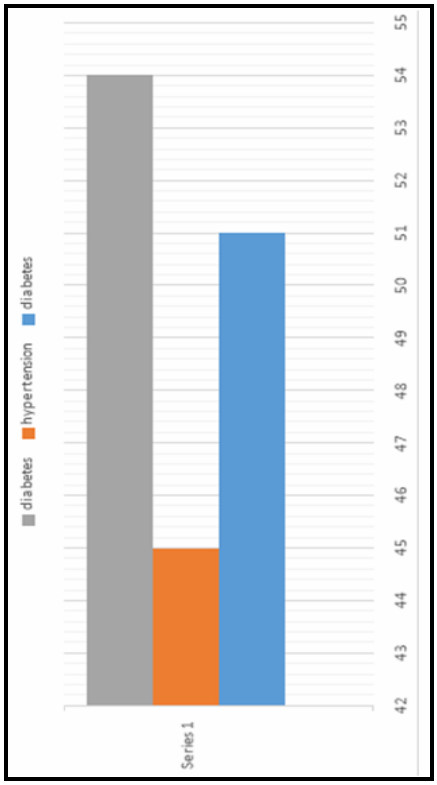
al study (42%) [9]. Risk factors for endometrial hyperplasia which includes Diabetes mellitus (DM), hypertension (HTN) and Obesity (Body mass index >30kg/m2) were studied and found in 83% of the cases.

Table-1: Comparative studies of histopathological analysis of post menopausal bleeding

Endometrial histopathology	Current study (N=70)	Howard Her-Juing wu (N=61) 2001 [14]	Naik (N=53) 2005 [15]
Proliferative	24 (34%)	15 (24.5%)	9 (17%)
Secretory	4 (6%)	-	-
Polyp	8 (12%)	3 (5%)	3 (5.7%)
Atrophic	12 (16%)	15 (24.5%)	17 (32%)
Hyperplasia	14 (20%)	16 (26.4%)	14 (26.4%)
Miscellaneous	4 (6%)	3 (5%)	-

Fig-2: Risk factors for post menopausal bleeding



Incidence of diabetes was found to be 54%. Hypertension in 45% and obesity in 18%. Among diabetes majority 37% showed proliferative endometrium, 32% showed hyperplasia, 16% showed atrophia, 5% of polyp, 5% of miscellaneous and 5% of carcinoma. Among cases of HTN, 38% showed proliferative endometrium, 26% showed atrophic endometrium, 12% of hyperplasia and 6% of polyp, 6% of miscellaneous and 12% carcinoma. Most of the the patients with obesity presented with proliferative endometrium. The relation of BMI to pathology was studied and it was found 39% proliferative, 28% hyperplasia, 22% atrophic and rest miscellaneous (Fig-2).

Discussion

Present study is an observational study done over 4 years (May 2012 to May 2016) in Shifaa hospital, Bangalore. 70 cases of post menopausal bleeding were enrolled .It is a common problem that affects 1 in 10 post menopausal women older than 55 years [10-11]. Although it is not always a symptom of cancer, any amount of post menopausal bleeding needs to be evaluated. The exclusion of endometrial hyperplasia and carcinoma is the key issue in the evaluation of patients with PMB. Incidence of post menopausal bleeding in present study is 3% which was correlated with other studies 4.1% [7] and 5% [8]. In the present study, one third (31%) of the cases belong to 50-54 years which is in accordance to Nasira et al study (32%) [7]. Both studies showed proliferative endometrium predominantly.

The rate of post menopausal bleeding declined with increasing duration of menopause, the peak incidence of PMB in the current study was between 6-10 years after menopause (40%). Which correlated with Kauser Jilani et al study [9]. In the present study majority were multiparous (88%) which was similar to Opmer et al (89%) [12] and Kavitha et al (90%) [13] (Table 2). In the current study 50% of nullipara had endometrial cancer whereas Opmer et al showed 18% of nullipara had endometrial cancer. This difference is probably due to low sample size and high incidence of risk factors in the present study. In the current study, half of the cases which was also a risk factor for increases incidence of DM (54.2%) and HTN (42%) in this study. In Opmer et al [12], only 20.7% were obese, 11.4% had DM and 25% had HTN.

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Table-2: Comparison of risk factors with other studies		
Variables	**Kavitha et al (N=30) [13] %**	**Opmeer et al (N=540) [12] %**
Age at onset of PMB (years)		
45-50	5(16.6%)	150(27.7%)
50-60	17(56.7%)	118(21.8%)
>60	8(26.7%)	272(50.5%)
Duration of menopause(years)		
<3	-	143(26.4%)
3-9	-	145(26.8%)
10-19	-	132(24.4%)
>20	-	120(23.4%)
Parity	-	
Nulli	2(6.7%)	61(11.3%)
Primi	1(3.3%)	-
Multi	27(90%)	479(88.7%)
Medical diseases		
Diabetes	4(13.3%)	62(11.4%)
	11(36.6%)	135(25%)
Overweight	13(43.3%)	229(42.2%)
Obese	0	112(20.7%)
Hypothyroidism	1(3.3%)	18(3.3%)
No illness	1(3.3%)	

In this prospective observational study, on third (34%) of patients with PMB showed proliferative endometrium on histopathological examination. On reviewing the literature, we found that other studies showed atrophic endometrium was the most common feature on histopathology (32% [14] and 52% [15]) whereas in present study, atrophic change comprises only 6%. This difference in occurrence is probably due to high estrogen, as majority of the cases in our study were obese and diabetic. Endometrial hyperplasia (20%) was the second common feature in our study which is consistent with other studies (26%) [14-15]. Incidence of malignancy in present study was less than 6% of which all the histopathology reports showed adenocarcinoma as this was hospital based study whereas Nasira et al [7] showed 16%, which was higher compared to present study as they focused on malignancy. In current study the duration of complaints in most of the patients was around 60-90 days (55%), > 90 days 25%, 3-60 days 20%. In our study endometrial sampling has not been done prior because of financial constraints and also on patients request.

Though transvaginal usg is better than transabdominal scan, as our institute is provided with male radiologist so our patients were not compliant to undergo transvaginal usg. In ultrasonography 43% of patients had atrophic uterus, 34% of patients had normal sized uterus and 23% of patients had bulky uterus with other abnormalities like fibroid / polyp / adenomyosis. In this study 60% showed endometrial thickness between 5-12 mm among them 38% showed proliferative endometrium 19% showed polyp and hyperplasia, 14% showed atrophic endometrium, 5% showed secretary and 5% showed carcinoma of endometrium (table-3).

Table-3: Correlation of Endometrial thickness in TAS with Endometrial Histopathology			
HPR	**USG (Endometrial thickness in mm)**		
	<5	**5-12**	**>12**
Proliferative	0	16	8
Secretary	0	2	2
Polyp	0	8	0
Atrophic	6	6	0
Hyperplasia	2	8	4
Carcinoma	0	2	2
Miscellaneous	0	0	4
Total	8(12%)	42(60%)	20(28%)

Conclusion

1. Post menopausal bleeding is the first and most constant sign of endometrial cancer.
2. Every post menopausal bleeding case has to be thoroughly evaluated with history, examination (age, presence of diabetes, hypertension, BMI) and TVS to improve diagnostic accuracy.
3. Early diagnosis makes successful treatment of endometrial hyperplasia and endometrial cancer in post menopausal bleeding cases.
4. Endometrial sampling is mandatory prior to therapeutic gesture.

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