

# Evaluation of Causes of Post-Menopausal Bleeding: A Hospital-Based Study

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## Abstract

Midline cerebral congenital malformations, despite their relative rarity in the general population, with their high rate of **Introduction:** Postmenopausal bleeding is frequent in gynecology and occurs approximately in 5% to 10% of postmenopausal women. But most of the causes of post-menopausal bleeding are benign and treated conservatively. Women with postmenopausal bleeding have a primary or secondary malignancy of about 10%. So before starting treatment malignancy must be excluded. Common malignancies among them are endometrial or cervical carcinoma and rarely, ovarian cancer. The incidence of malignancy in the postmenopausal period remains sufficiently high, so it requires immediate investigations for early diagnosis, prompt treatment, and vigilant follow-up. The objective of the study is to evaluate the causes of postmenopausal bleeding in tertiary care hospitals in Dhaka city. **Methods:** This retrospective study was conducted at the Department of Obstetrics and Gynecology in Delta Medical College and Hospital, Dhaka, Bangladesh. The study duration spanned 12 months from July 2022 to June 2023. The study population consisted of 72 patients who presented with postmenopausal bleeding. The sampling for this study was conducted using a consecutive sampling method. Ethical approval was obtained from the ethical review committee of the study hospital. Descriptive statistics were used to summarize the demographic and clinical characteristics of the study participants. For the statistical analysis, the Statistical Package for the Social Sciences (SPSS). **Results:** Among 72 cases of postmenopausal bleeding, we found 9 cases of cancer (12.50%). Among them, 2 cases were cancer of the uterine cervix and 7 cases were cancer of the uterine corpus. Benign pathology was more frequent (63 cases: 87.50%), essentially presented atrophic endometritis 15 cases(20.83%), endometrial hyperplasia without atypia 27.78% cases, endometrial polyp 16.67% cases, endocervical polyp 5.56% cases, cervical polyp 8.33%, leiomyoma found in 5.53% cases and preinvasive disease about 2.78% cases. Histopathological findings in 2 cases of carcinoma cervix were invasive squamous cell carcinoma and 7 cases of endometrial cancer were endometrial adenocarcinoma. Cancer increased with advanced age while the incidence of bleeding decreased with age. Within 45 to 65 years of age is more frequent to develop post-menopausal bleeding. **Conclusion:** Even though causes of post-menopausal bleeding are mostly benign and treated conservatively but malignancy must be ruled out by endometrial and cervical biopsy.

**Keywords:** Post-menopausal, Bleeding, Cervical Biopsies, Endometrial Biopsies, Histopathological Status.

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## INTRODUCTION

Menopause is derived from the Greek word, Meno (month) and pause means (to stop). Menopause is defined by the World Health Organization as the permanent cessation of menstruation resulting from the loss of ovarian follicular activity [1]. Any episode of bleeding 12 months or more after the last period is

known as post-menopausal bleeding (PMB) [2]. The common menopausal age in Indians is 45-50 years. Post-menopausal bleeding represents approximately 5% to 7% of all gynecological visits [4]. Post-menopausal bleeding represents one of the most common reasons for referral to gynecological services, largely due to suspicion of an underlying cervical or endometrial malignancy. Postmenopausal bleeding (PMB) means

bleeding from the genital tract in menopausal women after 12 months or more of amenorrhoea [5]. In PMB, the incidence of benign pathology is high but excludes malignancies. It requires immediate investigations for early diagnosis, follow-up, and prompt treatment. The primary assessment in all cases of PMB should be through history taking, necessary examination, (G/E, P/A/E, Per speculum) transvaginal ultrasound scanning (TVS) as the thickening of the endometrium may indicate significant pathology [6]. A woman not taking hormone replacement therapy (HRT) who bleeds after the menopause has 10% risk of significant pathology [2]. About 90% of patients with endometrial carcinoma have vaginal bleeding or discharge as presenting symptoms. Therefore, postmenopausal bleeding should always be investigated no matter how minimal or nonpersistent. Causes may be congenital or genital, uterine, or extrauterine. Endometrial atrophy is the most common endometrial finding in women with postmenopausal bleeding, accounting for 30-40%. Ultrasound is the first-line diagnostic procedure to which women with postmenopausal bleeding are subjected [3]. Endometrial hyperplasia occurs in 5-10% of patients with postmenopausal bleeding. Oestrogen is an established risk factor for endometrial hyperplasia and cancer. The source of excess estrogen should be considered, including obesity, exogenous estrogen or an estrogen-secreting ovarian tumour [4]. Clinically significant hyperplasia usually evolves within a background of proliferative endometrium as a result of protracted significant hyperplasia usually evolves within a background of proliferative endometrium as a result of progesterone influence [5]. Not only is endometrial hyperplasia important because of the possibility of abnormal uterine bleeding but it may also precede or occur simultaneously with endometrial cancer [6, 7]. In our study, the patients were evaluated by history, examination, investigation, and histopathological examination following cervical biopsy, endometrial biopsy, and hysterectomy to know the causes of postmenopausal bleeding and its associations with age. Therefore, the present study was carried out to analyze the causes of post-menopausal bleeding by investigation and the histopathological findings in women in a tertiary care hospital.

## METHODS

This retrospective study was conducted at the Department of Obstetrics and Gynecology in Delta Medical College and Hospital, Dhaka, Bangladesh. The study duration spanned 12 months from July 2022 to June 2023. The study population consisted of 72 patients who presented with postmenopausal bleeding. The sampling for this study was conducted using a consecutive sampling method, where all eligible patients who met the inclusion criteria during the study period were included. The materials for the study were collected from histopathological reports of endometrial and cervical biopsies, as well as hysterectomy specimens obtained from these patients. Ethical approval was obtained from the ethical review committee of the study hospital. The collected data included information from histopathological reports and patient records. The data were then compiled and analyzed using proportions to determine the prevalence of different causes of postmenopausal bleeding. Descriptive statistics were used to summarize the demographic and clinical characteristics of the study participants. For the statistical analysis, the Statistical Package for the Social Sciences (SPSS).

### Inclusion Criteria:

1. Patients with postmenopausal bleeding.
2. Patients whose materials for study were collected from histopathological reports of endometrial, cervical biopsies, and hysterectomy specimens.
3. Patients of any age, as long as they met the criteria for postmenopausal status.

### Exclusion Criteria:

1. Patients with known bleeding disorders.
2. Patients who did not meet the criteria for postmenopausal status.
3. Patients who did not have a complete record of their age.

## RESULTS

**Table 1: Distribution of study subjects according to age groups, (N=72)**

Age (Years)	Number of subjects	Percentage
41-45	03	04.17%
46-50	05	06.95%
51-55	20	27.78%
56-60	25	34.72%
61-65	12	16.67%
66-70	4	05.56%
>70	3	04.16%

Table I shows the frequency of postmenopausal bleeding among different age groups. The age of the patient with postmenopausal bleeding

ranged between 41-70 years with a mean age of 55 years. The maximum number of cases 25 (34.72%) were between the age group of 55-60 years. The

incidence of post-menopausal bleeding declined with increasing age. The minimum number of cases (4.17%)

were in age groups of 41 to 45 years and >70 years.

**Table 2: Distribution of cases by Histopathological report (N=72)**

Histopathological Diagnosis	Number	Percentage
Endometrial hyperplasia without atypia	20	27.78%
Endometrial polyp	12	16.67%
Endocervical polyp	04	05.56%
Leiomyoma	04	05.56%
Ectocervical polyp	06	08.33%
Endometrial Adenocarcinoma	07	09.72%
Cervical Carcinoma	02	02.78%
Endometrial hyperplasia with atypia	02	02.78%
Atrophic endometritis	15	20.83%

Table II illustrates the maximum number of post-menopausal bleeding due to benign causes. Endometrial hyperplasia without atypia was the commonest benign cause of postmenopausal bleeding comprising a total of 20 cases (27.78%). Endometrial polyp was 12 (16.67%) cases, leiomyoma was 4(5.56%)

cases. Among the premalignant conditions, endometrial hyperplasia with atypia was 2 (2.78%) cases and atrophic endometritis was 15 (20.83%) cases. Among the malignant lesions, endometrial adenocarcinoma was the most common 7 ((9.72%) cases, and cervical carcinoma 2 (2.78%) cases.

**Table 3: Distribution of Cases by Comorbidity**

Comorbidity	Number	Percentage
Hypertension	25	34.72%
Diabetes Mellitus	14	19.44%
Cardiovascular disease	8	11.11%
Thyroid dysfunction	5	6.94%
No morbidity	20	27.78%

Among the cases, the most prevalent comorbidity is hypertension, with 25 cases, accounting for 34.72% of the total. Diabetes mellitus follows with 14 cases, representing 19.44% of the total.

Cardiovascular disease is reported in 8 cases, making up 11.11% of the total. Thyroid dysfunction is present in 5 cases, constituting 6.94% of the total.

**Table 4: Distribution of Study Subjects by Obstetric Status, (N=72)**

Obstetric Status	Frequency	Percentage (%)
Primipara	28	38.89
Multipara	44	61.11
Total	72	100.00

Out of a total of 72 study subjects, 28 (38.89%) are classified as primipara, indicating that they are experiencing their first pregnancy. The remaining 44 subjects (61.11%) fall into the multipara category, indicating they have had multiple pregnancies in the past.

## DISCUSSION

Postmenopausal bleeding (PMB) means bleeding from the genital tract in menopausal women after 12 months or more of amenorrhea<sup>5</sup>. PMB is common and accounts for 5%to7% of all gynecological cases. In PMB, the incidence of malignancy is about 10% to 12%. It requires immediate investigations for early diagnosis, follow-up, and prompt treatment. The primary assessment in all cases of PMB should be proper history. examination, a necessary investigation by transvaginal ultrasound scanning (TVS) as the

thickening of the endometrium may indicate significant pathology [6]. The present trend in investigation lesions with PMB when endometrial thickness is >4mm only as measured by ultrasound [7]. However, it is recommended for systemic collection of biopsies from symptomatic patients because there are reports of cancer in patients with ultrasound-measured endometrial thickness >5 mm [8, 9]. The present study included 72 patients who presented with postmenopausal bleeding during 12 months period from July 2022 to June 2023 in the Gynecology department of tertiary care hospital in Dhaka city. In this study, it was noted that a maximum number of cases (34.72%) were in the age group of 56-60 years and a minimum number of cases were in the age groups of 40-45 years and >70 years while the study was done by way of *et al.*, Sousa R *et al.*, Bharani B *et al.*, and Sheikh M *et al.*, was 38-94, 43-82, 52-65, 42-84 years respectively

[13-16]. The mean age of the present study was 55 years whereas in other studies it was 47.43 to 56.57 years [17]. It was also noted that as the age of the subjects increases, the incidence of PMB decreases which shows an inverse relationship between age and occurrence of PMB. In a study done by Gredmark T *et al.*, the number of cases of PMB decreases with increasing age [16]. In this study, 72 samples were collected from biopsy specimens of the cervix, endometrium, and hysterectomy specimens of patients with postmenopausal bleeding. Benign conditions were 87.50%, malignant 12.50%, and premalignant conditions were in 2.78%. cases. Benign conditions included cervical polyp, atrophic endometrium, endometrial hyperplasia without atypia, endometrial polyp, leiomyoma, and cervical polyp. It was noted that endometrial hyperplasia without atypia was the most common histological lesion (27.78%) But study of Nail *et al.*, [17] who found it to be 8.6% and Cheema *et al.*, 8% [6]. It may be due to increased rate of obesity, diabetes and hypertension in general population of our country. Endometrial hyperplasia was followed by endometrial atrophy (20.83%) endometrial polyp (16.67%), endocervical polyp (5.56%) Ectocervical polyp (8.33%), leiomyoma (5.53%). In polyp, bleeding can be a result of injury to thin-walled vein below surface epithelium or thrombosis of the vessels. The bleeding in leiomyoma can occur due to congestion or atrophy and thinning of overlying endometrium and myometrium results in ulceration and bleeding [19]. In present study, atrophic endometrium was 20.83%, but atrophy was found 16.3% by Naik *et al.*, [17]. In our study the ratio of cervical to uterine carcinoma was 1:3.5 which is similar to study of Tyagi *et al.*, where it was 1:2.6. Among malignancy, histologically 7 cases were endometrioid adenocarcinoma of endometrium followed by 2 cases (2.56%) were invasive squamous cell carcinoma of cervix. In the present study, premalignant conditions such as endometrial hyperplasia with atypia was seen in (2.78%) cases. Hyperplasia with atypia carry the risk of development of carcinoma of uterus. Postmenopausal bleeding was managed according to the histological diagnosis of the causes of PMB. The management of postmenopausal bleeding depends on the histological diagnosis of the underlying causes. In the present study, hypertension was the most prevalent comorbidity, affecting 34.72% of the cases. This finding was consistent with other studies reporting a hypertension prevalence respectively rate of 33% and 36% among PMB patients [20, 21]. In this study 38.89% individuals were classified as primipara (having their first pregnancy), while 61.11% were categorized as multipara (having multiple previous pregnancies). These findings are consistent with another study, which reported that 15% of patients were primipara and 85% were multipara [22]. Furthermore, an additional study revealed that 53.33% of patients were primipara, while 46.67% were multipara [23]. This reinforces the consistent trend of

higher representation of multipara individuals in postmenopausal bleeding studies.

## CONCLUSION

According to the findings of this study, maximum postmenopausal bleeding was due to benign causes. Among the benign causes, commonest cause was endometrial hyperplasia without atypia. In this study commonest malignant cause was endometrial adenocarcinoma. So, more awareness among people, should be made. An accurate diagnosis is immensely important as it will be helpful for the management of the patient.

## RECOMMENDATION

Early diagnosis and prompt treatment are recommended for postmenopausal bleeding (PMB) cases, with thorough history, examination, and transvaginal ultrasound scanning (TVS) as primary assessments. Biopsies should be considered for symptomatic patients, and awareness of common histological lesions and comorbidities is essential for effective management.

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