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Histopathological Study of Endometrium in Postmenopausal Bleeding

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Abstract

Background & objectives: *Postmenopausal bleeding is frequent in gynecology and occurs approximately in 5% to 10 % of postmenopausal women. About 10% women with postmenopausal bleeding have a primary or secondary malignancy. Common malignancies among them are endometrial or cervical carcinoma and rarely, ovarian cancer. The incidence of malignancy in postmenopausal period remains sufficiently high, so it requires immediate investigations for early diagnosis, prompt treatment and vigilant follow up. The objective of the present study is to evaluate the causes of postmenopausal bleeding based on histopathology of endometrium and the percentage of various benign, premalignant and malignant lesions in patients with post-menopausal bleeding.*

Methods: *A retrospective study was undertaken on 78 women presenting with postmenopausal bleeding in Bangladesh Institute of Research and Rehabilitation in Diabetes, Endocrine and Metabolic disorders (BIRDEM) Hospital, Dhaka, from July 2018 to June 2019. Histopathological reports and patient's profile were reviewed. Causes of bleeding were identified and related to patients' age.*

Results: *Among of 78 cases of postmenopausal bleeding, we found 8 cases of cancer (10.26%). Among them 2 cases were cancer of uterine cervix and 6 cases were cancer of uterine corpus. Benign pathology was more frequent (63 cases: 80.77%), essentially presented with endometrial hyperplasia without atypia 20.52% cases, endometrial polyp 16.67% cases, cervical polyp 14.11% cases, leiomyoma found in 9% cases and preinvasive disease about 9% cases. Histopathological findings in 2 cases of carcinoma cervix were invasive squamous cell carcinoma and 6 cases of endometrial cancer were endometrial adenocarcinoma. Cancer increased with increasing age while the incidence of bleeding decreased with age.*

Conclusion: *Despite the fact that benign pathology is more frequent than malignancy as a cause of postmenopausal bleeding, we must always rule out a cancer by endometrial and cervical biopsy.*

Introduction:

Menopause is derived from Greek word, 'meno'(month) and 'pause' means (to stop)[1]. The menopause is defined by the World Health Organization as the permanent cessation of menstruation resulting from the loss of ovarian follicular activity. Any episode of bleeding 12 months or more after the last period is accepted as post-menopausal bleeding(PMB)[2]. Common menopausal age in Indians is 45-50 years [3]. Post menopausal bleeding represents approximately 5% of all gynaecological visits[4] . Post menopausal bleeding

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represents one of the most common reasons for referral to gynaecological services , largely due to suspicion of an underlying cervical or endometrial malignancy . Postmenopausal bleeding (PMB) means bleeding from genital tract in menopausal women after 12 months or more of amenorrhoea[5]. PMB is common and accounts for 5% of all gynecological cases. In PMB, the incidence of malignancy is high. It requires immediate investigations for early diagnosis, follow up and prompt treatment. The primary assessment in all cases of PMB should be by transvaginal ultrasound scanning (TVS) as the thickening of endometrium may indicate significant pathology[6] 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[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 nongenital or genital, uterine or extrauterine. Endometrial atrophy is the most common endometrial finding in women with postmenopausal bleeding, accounting for 60 – 80 %. 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 postmeanoposal bleeding. Oestrogen is an established risk factor for endometrial hyperplasia and cancer. The source of excess oestrogen should be considered, including obesity, exogenous oestrogen or an oestrogen secreting ovarian tumour[7]. Clinically significant hyperplasia usually evolves within a background of proliferative endometrium as a result of protracted oestrogen stimulation in the absence of progesterone influence[8] . Not only is endometrial hyperplasia is important because of the possibility of abnormal uterine bleeding but it may also precede or occurs simultaneously with endometrial cancer[9,10] . In our study the patients were evaluated by histopathological examination following cervical biopsy , endometrial biopsy and hysterectory with an aim to know the causes of postmenopausal bleeding and its associations with age.

Aims and Objectives:

The present study was carried out to analyze the histopathological findings in women with post menopausal bleeding in a tertiary care hospital. The objectives were to know the various causes of postmenopausal bleeding, to differentiate benign and malignant lesions based on histopathology. Age distribution of them were also determined.

Materials and Methods:

This retrospective study was conducted for a period of 12 months from July 2018 to June 2019 at the Department of Obstetrics and Gynecology, Bangladesh Institute of Research and Rehabilitation in Diabetic, Endocrine and Metabolic disorders (BIRDEM) Hospital, Dhaka. Materials for study was collected from histopathological reports of endometrial, cervical biopsies and hysterectomy specimens of patients with postmenopausal bleeding. The age of the patients were recorded. The patients having spotting type pervaginal, brownish discharge, scanty flow or moderate to profuse bleeding were included in the study. Premature menopause whether surgical or natural, age <40 years and patient on hormonal replacement therapy /on anticoagulant / having bleeding disorders were excluded from the study. The results were compiled, analyzed using proportion and compared with other studies.

Results:

The present study comprised of 78 cases of postmenopausal bleeding in BIRDEM Hospital who were managed during the study period of 12 months. Those who met the inclusion and exclusion criteria, were included in this study.

Table-I

Distribution of study subjects according to age groups

Age (years)	No. of subjects (78)	Percentage
41 - 45	1	1.28
46 - 50	12	15.39
51 - 55	21	26.92
56 - 60	19	24.36
61 - 65	9	11.54
66 - 70	6	7.69
>70	9	11.54
>80	1	1.28

Table I shows the frequency of postmenopausal bleeding among different age groups. Age of the patients with postmenopausal bleeding ranged between 41 – 80 years with the mean age of 58 years.

Table-II

Distribution of cases according to Histopathological diagnosis of cause of PMB.

Histopathological diagnosis	Number (78)	Percentage
Endometrial hyperplasia without atyoia	16	20.52
Endometrial polyp	13	16.67
Cervical polyp	11	14.11
Leiomyoma	9	11.54
Adenomyosis	7	8.97
Endometrial Adenocarcinoma	6	7.69
Cervical carcinoma	2	2.56
Chronic cervicitis with squamous metaplasia	5	6.41
CIN	5	6.41
Endometrial hyperplasia with atypia	2	2.56
Atrophic endometritis	2	2.56

The maxium number of cases 21(26.92%) were between the age group of 51 – 55 years. The incidence of post-menopausal bleeding declined with increasing age. The minimum number of cases (1.28%) were in age groups of 40 -45 years and > 80 years.

Table II illustrates that maximum number of post-menopausal bleeding was due to benign causes. Endometrial hyperplasia without atypia was the commonest benign cause of postmenopausal bleeding comprising total 16 cases (20.52%). Endometrial polyp was 13 (16.67%) cases, cervical polyp was 11 (14.11%) cases, leiomyoma was 9 (11.54%) cases, adenomyosis was 7 (8.97%) cases, and and chronic cervicitis with squamous metaplasia was 5 (6.41%) cases. Among the premalignant conditions, cervical intraepithelial neoplasia (CIN) was 5 (6.41%) cases and endometrial hyperplasia with atypia was 2 (2.56%) cases and atrophic endometritis was 2 (2.56%) cases. Among the malignant lesions, endometrial adenocarcinoma was the most common 6 (7.69%) cases and Cervical carcinoma 2 (2.56%) cases. The ratio of malignant tumor in cervix to corpus uteri was 1:3.

Table-III

Distribution of cases according to benign and malignant condition.

Histopathology	Number of cases (78)	Percentage
Benign	63	80.77
Malignant	8	10.26
Premalignant (cervical)	7	8.97
Total	78	100

Table III: Among the all cases of post-menopausal bleeding, most PMB were due to benign causes 63 cases (80.77%). Malignant causes were only 8(10.26%).

Discussion:

Postmenopausal bleeding (PMB) means bleeding from genital tract in menopausal women after 12 months or more of amenorrhoea[5]. PMB is common and accounts for 5% of all gynecological cases. In PMB, the incidence of malignancy is high. It requires immediate investigations for early diagnosis, follow up and prompt treatment. The primary assessment in all cases of PMB should be by transvaginal ultrasound scanning (TVS) as the thickening of endometrium may indicate significant pathology[6]. The present trend in investigating lesions with PMB when endometrial thickness is >4 mm 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 <5mm[11, 12]. The present study included 78 patients who presented with postmenopausal bleeding during 12 months period from July, 2018 to June, 2019 in Gynecology department of BIRDEM General Hospital. In this study, it was noted that maximum number of cases (26.92%) were in the age group of 51 – 55 years and minimum number of cases were in the age groups of 40 -45 years and > 80 years. In the present study age range was from 41 – 80 years while the study

done by Way sf 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]. Mean age of the present study was 58 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 occurence of PMB. In study done by Gredmark T et al, the number of cases of PMB decreased with increasing age[16]. In this study, 78 samples were collected from biopsy specimens of cervix, endometrium and hysterectomy specimen of patients with postmenopausal bleeding. Benign conditions were 80.77%, malignant 10.26%, and premalignant conditions were in 8.97% cases(Table 3). Benign conditions included chronic cervicitis with squamous metaplasia, cervical polyp, atrophic endometrium, endometrial hyperplasia without atypia, endometrial polyp, leiomyoma and adenomyosis. It was noted that endometrial hyperplasia without atypia was the most common histological lesion (20.52%) which is comparable to study of Naik 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 polyp (16.67%), cervical polyp (14.11%), leiomyoma (11.54%). 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 2.56%, but atrophy was found 16.3% by Naik et [17]. PMB due to malignant and premalignant cases in present study was 19.23%(Table 3) which is almost similar to study of Gredmark et al(15%)[18]. In our study the ratio of cervical to uterine carcinoma was 1:3 which is similar to study of Tyagi et al where it was 1: 2.6. Among malignancy, histologically 6 cases (7.69%) 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 (2.56%) cases and CIN was (6.41%). Hyperplasia with atypia and CIN carry the risk of development of carcinoma of uterus and cervix[2,3]. Postmenopausal bleeding was managed according to the histological diagnosis of the causes of PMB.

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, especially postmenopausal women should be made. VIA, Colposcopy and Pap Screening should made available. Fractional Curettage is also recommended as an diagnostic and also curative procedure. An accurate diagnosis is immensely important as it will be helpful for the management of the patient.

Author's Contributions

FF was involved in study design, data collection, literature review, data analysis & manuscript writing. NS was involved in study design, statistical analysis & manuscript writing. TA was involved in literature review & manuscript writing. FTTC waqs involved in editing & overall supervision.

Competing interest

Authors declare no conflict of interest.

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