A STUDY OF HISTOLOGICAL FINDINGS IN WOMEN WITH POST-MENOPAUSAL BLEEDING IN A TERTIARY CARE HOSPITAL

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Abstract

This retrospective observational study aims to observe the histological findings of endometrial biopsy in women suffering from postmenopausal bleeding (PMB). Hundred and sixteen patients' Endometrial Biopsy reports were collected from Command Hospital Air Force in Bangalore from January 2022 to December 2023. Detailed history about the age, parity, obstetric, menstrual and drugs history was recorded. As an OPD procedure Endometrial Pipelle was used to obtain endometrial biopsy. Histological findings revealed 51.72% endometrial atrophy, proliferative endometrium 20.68%, while endometrial carcinoma was observed in 6.03%. We conclude that postmenopausal bleeding is a significant symptom and should not be neglected. Majority of patients with postmenopausal bleeding showed benign atrophic changes (51.72%) which is the most common cause.

Keywords: *Postmenopausal bleeding, Endometrial hyperplasia, Atrophic endometrium.*

Introduction

Postmenopausal bleeding (PMB) is abnormal uterine bleeding occurring one year after menopause[1]. It may be just spotting, or normal menstruation or heavy bleeding, the approximate age of menopause is 49 ±3 years with average age of 51 years, the possibilities of PMB decreases with increasing age[2] .

Woman who bleeds after menopause has a 10% risk of having genital cancer and the frequency of malignancy is increased with increased age and increased interval between PMB and menopause specially if there is no history of hormone replacement therapy[3]. The initial diagnosis is made by endometrial biopsy[4]. A common cause for bleeding after menopause is the use of oestrogens for hormone replacement therapy in 10% of women otherwise, those with continuous or frequent bleeding should be investigated for malignant diseases of the uterus or cervix[5]. Multiple causes of post-

menopausal bleeding has been established, but endometrial atrophy account for 60-80% of cases [6]. Endometrial hyperplasia whether simple, complex or atypical and endometrial carcinoma usually presents as PMB, cervical polyps and carcinoma of cervix may be a source of recurrent bleeding[7]. Atrophic endometrium after menopause resulted from inadequate oestrogen while in endometrial hyperplasia, Oestrogen is an established risk particularly in women with exogenous oestrogen, obesity, or ovarian tumour[8]. Endometrial hyperplasia occurs when the endometrium continue to grow in response to excessive oestrogen stimulation, the lining endometrium become abnormal and crowded[9]. Clinical significance of endometrial hyperplasia is due to possibility of PMB which may proceed to endometrial cancer [10]. Pelvic ultrasound and hysteroscopy with biopsy are appropriate procedures to recognize which woman is at higher risk of endometrial cancer and to evaluate the underlying etiology of PMB[11]. Our aim is to study the histological findings in women with post menopausal bleeding in a Tertiary Care Hospital.

Materials and Method

The present study was conducted in the Department of Obstetrics & Gynaecology, after Institutional Ethical Committee clearance. It is a hospital based observational study. Hundred and eighteen patients' EB reports were collected from pathology laboratory of Command Hospital Air Force Bangalore during the period from January 2022 to December 2023 who were complaining of post menopausal Bleeding (PMB) in OPD. Exclusion criteria were patients on hormone replacement therapy, on Anticoagulants or with bleeding disorders, post menopausal bleeding due to extrauterine causes. PMB was defined as uterine bleeding after one year of menopause. All patient charts were reviewed for age, gravidity, parity, abortions, menstrual cycle's characteristics before menopause, interval between last menstrual period and onset of PMB, type and duration of bleeding, blood pressure, body weight, associated medical conditions, interval between the onset of PMB and referral to the outpatient clinic, pelvic examination including palpated size of the uterus and the adnexa, depth of the uterine cavity measured by uterine sounding, histopathological findings of the curettages.Transvaginal ultrason -ography was performed for all cases. After exclusion of tubal and ovarian and cervical lesions, uterus was examined to exclude any extra-uterine lesion and endometrial thickness (ET) measured in a longitudinal view of the uterus. If ET was <4 mm expectant treatment was allowed but if bleeding recurred or persisted endometrial sampling was done. If ET was >4 mm endometrial sampling was done immediately without resorting to the expectant treatment. Endometrial curettage was carried out in a systemic way and the same pathology laboratory was evaluating the curettage material. The specimens were fixed in 10% neutral buffered formalin for 24 hours, then processed to obtain the tissue sections which were stained with Harris Hematoxylin and Eosin (H & E) and examined using light

microscope. Two patients with cervical polyp were excluded. The endometrial specimens were divided into the following histological categories: atrophic; proliferative; disordered proliferative ;secretory; endometrial hyperplasia without atypia ;carcinoma; endometrial and cervical polyp and others.

Results

In the present study, histopathological findings are Atrophic endometrium (AE) 51.72%, Proliferative endometrium(PE) 20.68%, Secretory endometrium (SE) 3.44%,Disordered proliferative endometrium (DPE) 12.06 %, Endometrial carcinoma (EC) 6.03%, Endometrial hyperplasia (EH) without atypia 0.86% and Others 1.72%. (Table 1)

Table 1: Histopathological findings of endometrium in women with PMB

Histology	**No of patients=116**	Percentage (%)
Endometrial atrophy	60	51.72
Proliferative endometrium	24	20.68
DPE	14	12.06
Endometrial carcinoma	7	6.03
Secretory endometrium	4	3.44
Endometrial Polyp	4	3.44
EH without atypia	1	0.86
Others	2	1.72

FIG.1 HISTOPATHOLOGICAL FINDINGS OF ENDOMETRIUM IN WOMEN WITH PMB

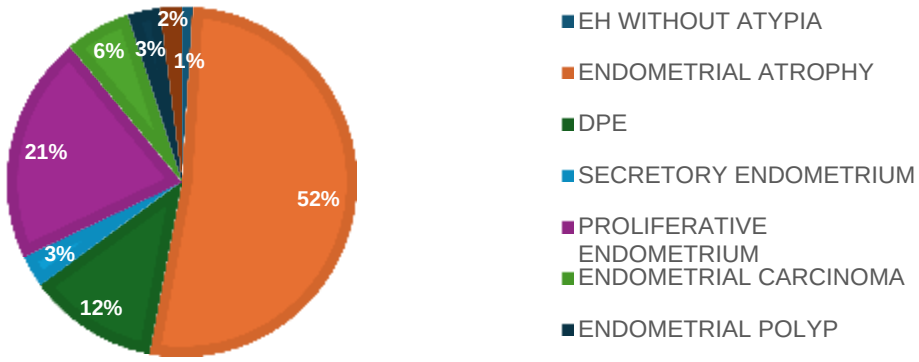


FIG 2. AGE GROUP OF PATIENTS (IN YRS)

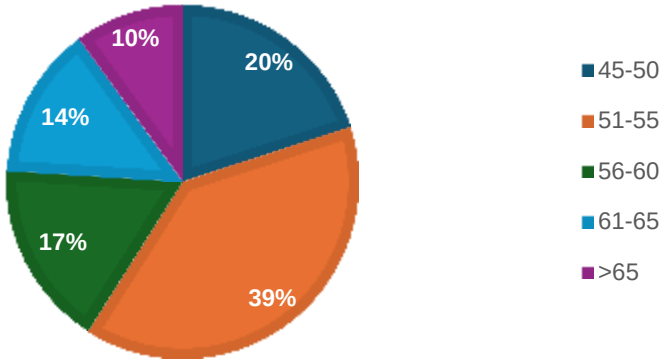
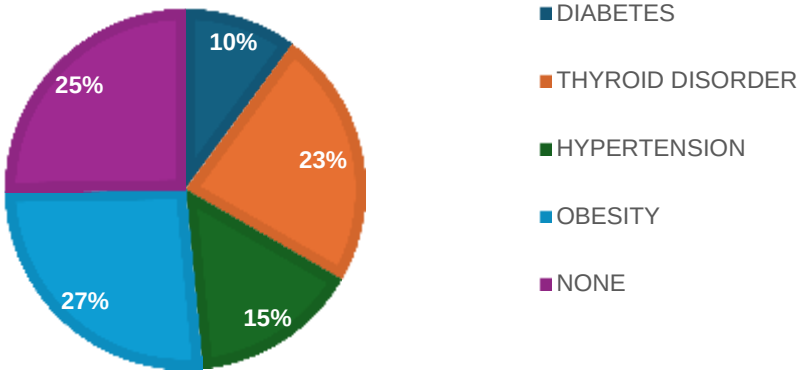


FIG 3.ASSOCIATED COMORBIDITIES WITH PMB



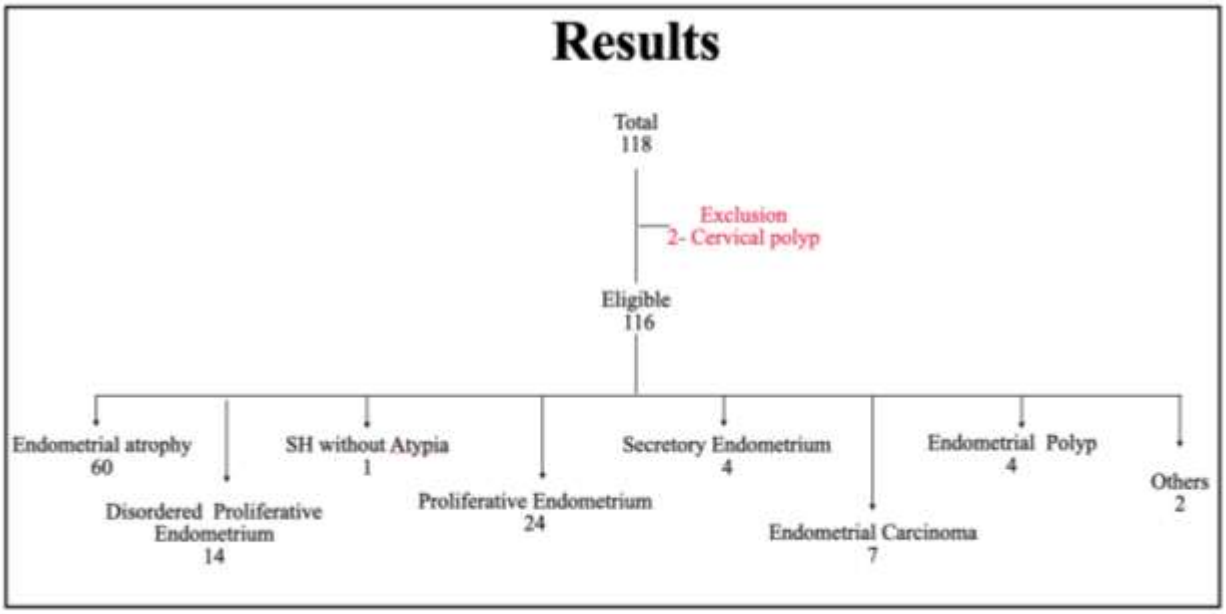


Table 2: Characteristics of patients with PMB according to their age, parity and medical disease

Demography	No. of Patients (N)=116	Percentage (%)
Age of patients (yrs)		
45-50	24	20.68
51-55	46	39.6
56-60	18	15.5
61-65	16	13.7
>65	12	10.3
Parity		
Nuliparous	9	7.75
Multiparous	107	92.24
Medical disease		
Diabetes mellites	12	10.34
Hypertension	18	15.52
Thyroid disorder	25	21.55
Obesity	31	26.72
None	30	25.86

Discussions

Postmenopausal bleeding is an alarming sign that may be associated with uterine malignancy. It is a common symptom,so patients presenting with it should be worked up on priority basis for early detection and further management.

We observed that maximum number of cases (39.6%) were in the age group of 51-55 years and minimum number of cases (10.3%) were in the age group of >65 years [Table 2]. It was also observed that as the age of our subjects increased the incidence of postmenopausal bleeding decreased, indicating an inverse relationship between age and age of postmeno -pausal bleeding. Gredmark T et al in his study revealed that the number of cases of PMB decline with age[12]. Yousaf S et al also stated the same[13]. In his study, 25 (69.44%) cases of PMB were between 50 and 60 years of age , while only 5 cases (13.89%) were above 70 years of age.It was observed that atrophic endometrium [Table 1] was the most common histological diagnosis i.e. in 60(51.72%). Gredmark T etal**,(**52.1%, Lee W Hetal**,** 64.4% by Dangal Getal and 53% by Kaur M et al) all reported endometrial atrophy as the commonest finding in patients with postmenopausal bleeding which is consistent with the present study [14,15,16]. Meyer et al postulated sclerotic degeneration of endometrial vessels as a cause of bleeding in atrophic endometrium. Hourihan et al stated anatomical vascular variations or local abnormal haemostatic mechanisms in the uterus as a cause of bleeding from atrophic endometrium.

Proliferative endometrium [Table1] were observed in 20.68% and it was the second most common finding next to atrophic endometrium. In other studies it ranged from 13.46% to 26.6% [12,13,14]. In our study, atypical hyperplasia was observed in no paitients. It was found to range from 1.8 to 8% in other studies [17,18,19]. 21.55% of patients were found to have thyroid dysfunction, similar finding have been observed by other worker who noticed frequent nodular goiter and hypothyroidism associated with postmenopausal bleeding with difficult diagnosis due to nonspecific symptoms particularly in thyroid cancer which worsens the prognosis[20]

Majority of the study sample 92.24% were multiparous and this may be attributed to the early menarche and early childbearing and multiple pregnancies in our society besides, the association of multiparity with ovulatory cycles and hormonal effects[21]. In this study,15.52% of women with PMB were hypertensive, the exact reasons is not fully understood but many studies revealed that oestrogen relaxes the blood vessels maintaining optimal blood flow thus the decline in oestrogen levels during menopause may contribute to hypertension and bleeding in addition to other factors like stress, anxiety, and lack of exercise[22]. Obesity was found in 26.72% of patients, nearly a similar figure was previously noticed by Acmaz et.al, (2014)[23] who reported a statistical significant association between postmenopausal bleeding and body mass index . Obese women at the postmenopausal period were significantly affected by serious precancerous lesion.

Obesity increase estrogen hormone by decreasing levels binding globulin which stimulate the endometrial growth or by increasing the conversion of androstenedione to estrone in the adipose tissue[24]. Endometrial carcinoma was found to be 6.03% while others have found it to range from 6% to 12%[24].Other studies conducted shown a significant rise in the incidence of malignancy with recurrent PMB, advancing age, prolonged time interval between the menopause and onset of bleeding, increasing amount and duration of bleeding and enlarged uterus[25,26].

Results & Recommendations

1. Postmenopausal bleeding is a symptom not to be ignored.
2. The results showed that atrophic endometrium was the most common cause of post menopausal bleeding.
3. A definitive diagnosis of post-menopausal bleeding is made by histology.
4. Malignancy cannot be ruled out until proved otherwise and justifies a thorough evaluation of patients with this symptom along with histopathological confirmation.

Limitations of the study: Small sample size, multiple comparisons, observational design, risk of confounding were some of the limitations.

Ethical Clearance: The present study was approved by Institutional Ethics Board.

Conflict of Interest: The authors have no conflict of interest.

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