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A prospective study on evaluation of post-menopausal bleeding among women from rural area attending a tertiary care teaching hospital

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Abstract
Introduction: Postmenopausal bleeding (PMB) is a common and early symptom of cervical and endometrial cancer. Its early detection can improve the cure rate and reduces mortality. The aim of this study is to find out the prevalence of bleeding in postmenopausal women in the rural population, its clinical presentation, histopathology incidence of malignancy.
Method and Material: A prospective study performed in Maharajah's Institute Of Medical Sciences, Vizianagaram, over 100 women. When women presented to the outpatient with the complaint of postmenopausal bleed were enrolled in the study. Patient's demographic data were collected, the pap and endometrial HPE were studied.
Results: The histopathological analysis showed proliferative endometrium (17%), secretory endometrium (10%), and atrophic endometrium (12%), and simple hyperplasia (14%), complex hyperplasia with atypia (8%), endometrial polyp (4%) and cervical polyp in (3%). Squamous cell cervical carcinoma (9%), *endocervicitis* (13%) of the population, endometrial malignancy in (3%) and no opinion were given in (7%).
Conclusion: Postmenopausal bleeding needs a complete history, clinical examination and investigations to detect the cases of malignancy at an earlier date. High-risk women like nulligravida, obesity, diabetes, has to be considered as a special case and extensively investigated to rule out malignancy.

Keywords: postmenopausal bleeding, endometrial thickness, endometrial carcinoma, cervical carcinoma, rural areas

Introduction
Postmenopausal bleeding (PMB) is defined as "*any bleeding that occurs from the genital tract after one year of amenorrhea in a woman who is not receiving Hormone Replacement Therapy (HRT)*." [1] Women with PMB has a 10% risk of having genital malignancies such as cervical cancer, endometrial cancer, vaginal, ovarian, and vulvar cancers, along with a 10% risk of significant pathology [2, 3, 4, 5].
Although PMB is often associated with benign pathologies, the possibility of having an underlying malignancy makes it a sinister complaint requiring thorough clinical workup. Evidence has shown that the early detection of cervical and endometrial cancer improves the cure rate and reduces mortality [6, 7].
However, unfortunately, like cervical cancer, there are no useful screening tests available for early detection of endometrial cancer [7]. The first evident symptom in almost all cases of endometrial cancer is PMB, which provokes women to seek medical help and getting detected at early stages of endometrial cancer [8].
In our country, a larger population, i.e. 71 million people are over 60 years of age. And postmenopausal women constituting to 43 million, according to the third consensus meeting of Indian Menopause Society (2008). Bleeding per vagina postmenopausal is one of the most common reasons for referral to the gynaecological department, with a strong suspicion of malignancy various studies have proven that 90% of the postmenopausal bleed is due to endometrial carcinoma [9], whereas only 10-15% of the women on HRT and having bleed per vagina is diagnosed as endometrial carcinoma.
Endometrial cancer is the most common gynaecological malignancy in the West, but in India, the incidence rates are low. 80-90% of the women have benign conditions like endometrial or cervical polyps, endometrial atrophy, infection, and simple endometrial hyperplasia, medical

disorders (e.g., liver cirrhosis), decubitus ulcer in cases of uterovaginal prolapse, neglected pessary and forgotten intrauterine device [10].

Severe conditions like endometrial cancer must be ruled out first. Women with risk factors liken nulligravida, women with multiple sexual partners, obese, diabetic, taking exogenous estrogens/tamoxifen, women who attain menopause late must be extensively investigated [11].

As the first line of investigation Transvaginal ultrasonography (TVS) is the recommended to assess the endometrial pathology, when the endometrial thickness is found to be more than 4 mm, it yields 98% sensitivity to detect endometrial cancer and Pap smear for cervical pathology [12].

In suspected cases, Dilatation and curettage or hysteroscopic guided biopsy are found to be the best modality to diagnose the aetiology for the bleed. Postmenopausal bleed until proved otherwise should be considered abnormal, except in those taking HRT [12].

Postmenopausal bleed is the most common symptom of endometrial carcinoma; hence every postmenopausal bleed should be investigated to rule out this first [13]. This study was conducted to study the clinical significance of postmenopausal bleeding in term of its risk factors, the incidence of malignancy and histopathological evaluation for the cause of postmenopausal bleed.

Methods

Study setting: Dept. of Obstetrics & Gynaecology, Maharajah's Institute of Medical Sciences, and Vizianagaram.

Type and duration of study: This study was a descriptive study conducted in Dept. of Obstetrics & Gynaecology from January 2016 to January 2019.

Sample size: 100 women, attending the OPD in the target age group of >45 years with vaginal bleeding.

Exclusion criteria: Patients having pre-mature menopause, surgical induced menopause, radiation-induced menopause and chemotherapy-induced menopause.

Inclusion criteria: Postmenopausal women who presented clinically with a complaint of vaginal bleeding, with their last menstrual period at least one year back and who were 45 years old or above**.**

The study was conducted after the Institutional Ethics Committee approval.

Data collection and procedures

After taking informed consent, a detailed history was obtained from the patients, including name, age, marital status, parity and postal address. Details regarding vaginal bleeding were recorded. These included the timing of onset, duration and amount of bleeding.

History of associated symptoms, including the presence of vaginal discharge, abdominal mass or pain and history of recent weight loss, was obtained. Drug history, especially, that of anticoagulants, hormones replacement therapy and tamoxifen therapy, was also noted. Past medical and surgical history was checked, especially regarding hypertension, diabetes mellitus and liver diseases.

A thorough general physical examination was performed. Height and weight of the cases measured and body mass index (BMI) calculated. Blood pressure had recorded. Specific clinical examination including abdominal, speculum and bimanual pelvic examinations had performed to assess the cervix and to determine the size, position and mobility of the uterus. Cervical smears have taken. The Transabdominal scan has done to determine endometrial thickness. All baseline investigations including Full blood count, Random blood sugar, Urine routine examination, Coagulation profile, X-ray chest and ECG were requested. Opinion regarding fitness for anaesthesia had obtained from the anaesthetist. After taking written informed consent Examination under anaesthesia (EUA), cervical smear and dilatation and curettage (D &C) have performed. Endometrial polyps, if found, were avulsed. The specimens were collected in separate containers and sent for histopathological examination to the pathology department.

Statistical analysis

Statistical analysis had performed by the SPSS program for Windows, version 17.0 (SPSS, Chicago, Illinois). Variables have presented as absolute numbers and percentage.

Results

The mean age of women with postmenopausal bleeding (PMB) was 52.2 years. Age distribution of women with postmenopausal bleeding had shown in Table 1. The parity distribution among study patients had shown in Table 2. The majority of the patients (62%) had a parity of P2.

Table 1: Demographic data of the study subjects

Age (Years)	Number (%)
45-49	29 (29%)
50-54	32 (32%)
55-59	31 (31%)
60 & >60	8 (8%)

Table 2: Parity

Parity	Number
Para 1	12
Para 2	62
Para 3	21
Para 4	4
Para 5 & >5	1

The histopathological findings of endometrium in patients with postmenopausal bleeding are shown in Table 3. Postmenopausal bleeding is more likely to be caused by pathologic disease than is bleeding in younger women. In the present series, 12 patients (12%) had malignancy, including endometrial carcinoma 3% and cervical carcinoma 9%, 54 patients (54%) had benign pathology, 22 had hyperplasia(22%) and 12 patients (12%) had endometrial atrophy.

Table 3: Distribution according to histopathological findings

Histopathology findings	Number of Cases
Proliferative endometrium	17
Atrophic endometrium	12
Secretory endometrium	10
Complex hyperplasia with atypia	8
Squamous cell carcinoma of cervix	9
Simple hyperplasia of endometrium	14
Endometrial carcinoma	3
Endocervicitis	13
Endometrial polyp	4
Cervical polyp	3
No opinion	7

Discussion

Postmenopausal bleeding is an alarming sign that has a high possibility of association with the cervical or uterine malignancy. It is one of the most typical symptoms the patient presents with, and hence should be worked upon priority bases to detect abnormalities if any present.

In our study of 100 cases, were in the age group of 50 to 54 years had the highest prevalence. The least was noted between the age greater than 70, whereas the study conducted by Wong SF *et al.*, Sousa R *et al.*, Bharani B *et al.*, and Sheikh M *et al.* it varied to 38-94, 43-82, 52-65, 42-84 years respectively [14, 15, 16, 17]. The mean age of the patient in the study we conducted was 52.2 years, whereas it was much lower in the survey conducted in the western population.

The correlation between the association of age and PMB was reported by Gredmark T *et al.*, which was not found in our study [18].

Malignancy had noted in 7 women, out of whom 2(4%) had endometrial, and 5(10%) had cervical cancer. Gredmark T *et al.*, Lee WH *et al.* Dangal G *et al.* and by Kaur Met reported atropic endometrium in 49.9%, 52.1%, 64.4% and 53% respectively, which the commonest cause for the postmenopausal bleeding. In contrast, in our study, the reported prevalence was only 12(12%) to be atrophy [18, 26, 19, 20].

Meyer *et al.* postulated the reason for the postmenopausal bleed in senile endometrium to be sclerotic degeneration of endometrial vessels whereas Hourihan *et al.* stated that the anatomical vascular variations or local abnormal haemostatic mechanisms in the uterus to be the cause.

Simple endometrial hyperplasia which is one of the most important predisposing factors for the development of endometrial cancer were tabulated as 14% in our study which ranged from 13.46% to 26.6% in various studies [22, 23].

The highest risk is noted in atypical endometrial hyperplasia, which had observed in 8% of the study population, ranged from 1.8 – 8% in other studies [13, 15, 17].

Proliferative endometrium had observed in 17% in our study, which a comparison to the study conducted by Phillip H *et al.* is found 20% [21]. Endometrial adenocarcinoma which is the most threatened cause of postmenopausal bleeding was found in 3% of the study population in our study, while various others found it to range from 6% to 12%, [16, 18, 24].

Squamous cell carcinoma of the cervix was responsible for 10% cases of PMB in our study making it almost double that of endometrial cancer. At the same time, it is reported to range from 8.8% to 39.6% in other studies [25].

Limitations of our study and Addition of the study to the existing knowledge

The main limitation of our study is sample size which is too small and confinement to a single geographical area. Hence large multi center studies has to be done to get a better picture.

The results support the fact that the diagnostic focus in post-menopausal bleeding in our country, should also focus on excluding cervical pathology. Cervical cancer is a preventable cancer because it has a long *preinvasive* state and also the *preinvasive* stage can be detected by cervical cytology screening program, and because the treatment for *preinvasive* lesions is effective.

Conclusion

PMB is an important symptom of cervical and endometrial cancer. Hence it should always be taken seriously and investigated meticulously no matter how minimal or insignificant it may appear. Early diagnosis makes successful treatment of endometrial hyperplasia and endometrial cancer in post-menopausal bleeding cases. Cervical malignancies must also be ruled out in all cases of PMB.

Contribution of authors

Dr. formulated the aims & objectives of the study along with the study design and Data Collection & Procedures.

Dr. contributed to Data analysis and Manuscript.

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