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Original Research Article

Evaluation of Clinical Significance and Endometrial Pathology in Patients with Postmenopausal Bleeding in a Tertiary Care Center

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Abstract:

Background: 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 aim of this study is to investigate the clinical significance and endometrial pathology in patients with PMB.

Methods: This retrospective study was conducted in Department of Obstetrics and Gynaecology, ESIC Medical College and Hospital, Bihta, Patna from January 2024 to June 2024. About 80 patients with PMB were selected and these patients were evaluated by pelvic USG, Endometrial biopsy and endometrial histopathology. Data were analyzed using MS office 2019.

Results: Maximum patients with PMB belonged to age group of 46-50 years (31.25%). 57.5% were multiparous (parity>2). About 53.75% had PMB 1 to 5 years after menopause. Endometrial thickness (ET) was > 4mm in 86.25%. Majority had ET between 5-10mm (58.75%). Histopathological analysis of endometrial curettings showed Proliferative phase in 35%, disordered proliferative phase in 17.5%, Atrophic Endometrium in 13.75% and endometrial carcinoma in 11.25%.

Conclusion: Postmenopausal bleeding is an important symptom which requires evaluation to eliminate possibility of malignancy. Transvaginal sonography (TVS) is the first mode of investigation for PMB but Histopathology of Endometrium serves as gold standard for definitive diagnosis.

Keywords: Endometrial pathology, HRT, ET, PMB, TVS.

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 occurs 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.

Material and Methods

This retrospective observational study conducted in department of obstetrics and gynaecology, ESIC Medical College and Hospital, Bihta, Patna from January 2024 to June 2024.All women with PMB who fulfilled inclusion and exclusion criteria were included in the study. Case sheets of 80 women admitted with PMB were studied. Women with postmenopausal complains of bleeding PV were included in this study and women with bleeding disorders, HRT, Tamoxifen, Anticoagulants and injuries to genital tract were excluded in this study. Using proforma relevant history, clinical examination findings and investigation details were taken from case sheets. History included – Age, parity, age of menopause, age of PMB, duration of PMB, Medical history like diabetes, hypertension. Clinical examination and investigation reports like Endometrial thickness (ET) from TVS and histopathology from endometrial biopsy were collected from the case sheets. Data were analyzed using MS office 2019.

Results

The age distribution, clinical presentation, ET by TVS, histological patterns of EM of 80 patients were studied.

Table 1: Age distribution of the patients

Age in years	No. of cases (N=80)	Percentage
40-45	6	7.5%
46-50	25	31.25%
51-55	18	22.5%
56-60	13	16.25%
>60	18	22.5%

Age of the patients with PMB ranged from 44 years to 72 years with maximum of 41.25% in age group of 46-50 years.

Table 2: Postmenopausal years

Postmenopausal (in years)	No. of cases	Percentage
1-5	43	53.75%
6-10	12	15%
11-15	9	11.25%
16-20	11	13.75%
>20	5	6.25%

Table 3: Age of menopause

Age in years	No. of cases	Percentage
40-45	31	38.75%
46-50	33	41.25%
51-55	14	17.5%
56-60	2	2.5%

In our study 80% attained menopause before 50 years and 20% after 50years. Only 2 cases (2.5%) attained

menopause after 55 years. 57.5% were multiparous (>2 parity). 28.75% of patients had diabetes and hypertension, 13.75% had hypothyroidism,hyperthyroidism in 1.25% and history of molar pregnancy in1.25%.

Table 4: Parity of the patients

Parity	No. of cases	Percentage
Nulli	6	7.5%
Para (1-2)	28	35%
>Para 2	46	57.5%

Table 5: Medical Disorders in patients with PMB

Medical Disorder	No. of cases	Percentage
Diabetes	23	28.75%
Hypertension	23	28.75%
Hypothyroid	11	13.75%
Hyperthyroid	1	1.25%
Previous molar Pregnancy	1	1.25%

TVS to measure endometrial thickness is easier. ET of 4-5mm is taken as cutoff in PMB women. In this study only13.75% had ET < 4mm and 86.25% had ET > 4mm. The common histopathological findings in our study was proliferative endometrium in 33.5% followed by disorderly proliferative endometrium in 17.5% and atrophicendometrium in 13.75%. Endometrial adenocarcinoma accounted for 11.25%.

Table 6: Distribution of cases according to ET in TVS

ET in mm	No. of cases	Percentage
<4 mm	11	13.75%
5-10 mm	47	58.75%
11-15 mm	14	17.5%
16-20 mm	6	7.5%
>20 mm	2	2.5%

Table 7: Histopathology of endometrium

Histopathology	No. of cases	Percentage
Atrophic endometrium	11	13.75%
Proliferative	24	33.5%
Disordered proliferative	14	17.5%
Simple hyperplasia without atypia	7	8.75%
Simple hyperplasia with atypia	4	5%
Complex Hyperplasia without atypia	5	6.25%
Complex Hyperplasia with atypia	3	3.75%
Adeno carcinoma	9	11.25%
Secretory Endometrium	3	3.75%

Discussion

Endometrium reflects hormonal status in women with Abnormal Uterine Bleeding. PMB contributes to 5% of all gynaec outpatients, is considered as abnormal and needs evaluation.[11] PMB is a common presentation due to increased longevity, increased obesity and widespread use of hormonal therapy. Incidence of premalignant and malignant disorders increase in postmenopausal age group, Significant EM pathology is detected in 10% of postmenopausal women.[10] The EM evaluation includes

TVS, Hysteroscopy, EM biopsy by Pipelle, Dilatation & curettage, CT and MRI. Histopathology is the gold standard for definitive diagnosis. Accurate histological diagnosis is essential as the treatment modality differs in benign and malignant pathology.[11] Evidence has shown that early detection of EM Carcinoma improves the cure rate and decrease mortality.[9]

Using non-invasive techniques such as TVS is preferable at first instance for detecting EM lesions followed by invasive techniques like hysteroscopy and D&C. ET of 4-5mm is taken as cut off in postmenopausal age group.[10]

The main aim of investigating these women is to rule out EM carcinoma and its precursor lesions – Endometrial hyperplasia.[14] The probability of EM carcinoma in PMB is 10% and for Endometrial hyperplasia is 15%.8 Even though the most frequent causes of PMB are benign conditions it is important to exclude atypical hyperplasia and EM

Carcinoma by thorough investigations.[9] Advanced age, obesity, early menarche, late menopause, HT, DM, nulliparity can increase risk of having EM carcinoma.[9]

USG is the appropriate first line procedure to identify which women with PMB is at higher risk of EM carcinoma. Thicker the endometrium higher the probability of important pathology. Measurement of ET by TVS having a cutoff of >4mm yields sensitivity of 98% for Detection of EM carcinoma.[9] ET <4mm has a 99% negative predictive value.[15] Vaginal bleeding is the presenting sign in more than 90% of PM women with EM Ca.[15] In our study 80 patients with PMB were analysed. Patients presented with age ranging from 44 to 72 years with maximum of 31.25% in age group of 46-50 years. This is similar to study by Parvathavarthini Krishnamoorthy et al,[13] Kothapally et al.[16] Of these patients 57.5% were multiparous (parity >2), this is in accordance with study by Kothapally et al, Parvathavarthini Krishnamoorthy et al, Jyothsna Sravanthi et al.[9] Regarding presentation of symptoms after menopause, maximum patients (53.75%) presented with PMB within 1 – 5 years of menopause and

15% in 6-10 years.

In this study 28.75% had HT and DM compared to 20% HT and 11% DM in study by Jyothsna Sravanthi et al,3 36% HT and 13% DM in study by Radha Nair et al.[8]

Transvaginal sonography showed ET>4mm in majority of cases (86.25%) similar to findings in study by Kothapally et al[16] Radha Nair et al,[8] Parvathavarthini Krishnamoorthy et al.[13] According to ACOG committee opinion no: 734, ET <4mm has a 99% negative predictive value for EM Ca.[15] Sonographic measurement of ET has to be done first in PMB to decide whether further investigations are needed to rule out malignancy. D&C is an invasive procedure and is associated with complications.

Of the histopathology of the endometrium of the 80 patients with PMB, the commonest finding was Proliferative endometrium seen in 33.5% similar to study by Kothapally et al.[16] Proliferative endometrium suggests high level of unopposed estrogen stimulation which can lead to rapid progression to Endometrial hyperplasia or endometrial carcinoma.

17.5% had disordered proliferative endometrium. 13.75% had atrophic endometrium compared to 16.6% in study by Kothapally et al.[16] and 13% in study by Jyothsna Sravanthi et al.[9] Exact cause of bleeding from atrophic endometrium is not known but is postulated to be due to anatomic vascular variations or local abnormal haemostatic mechanism.

23.75% had Endometrial hyperplasia which is in accordance with study by Pushpa Singh et al which showed 23.3%.[17] Adenocarcinoma was seen in 11.25% similar to findings in study by Pushpa et al. which showed 13%11 and 10% in study by Parvathavarthini et al. and Kothapally et al.[13,16]

In our study 9 patients had endometrial carcinoma, their age group ranged from 49 to 67 years. 1 patient was nulliparous and other 8 patients were multiparous (parity>2).

ET ranged from 6mm to 33mm with mean of 15 mm which was similar to study by Parvathavarthini Krishnamoorthy et al. [13]

Conclusion

It can be concluded that benign lesions and carcinoma endometrium are commonly seen in postmenopausal women with complaints of PMB. Early diagnosis can improve quality of life and reduce morbidity and mortality.

TVS can be used as first mode of investigation for PMB for predicting endometrial hyperplasia and endometrial carcinoma. Histopathological evaluation is mandatory for excluding malignancy by endometrial biopsy.

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