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RESEARCH ARTICLE

CLINICOPATHOLOGICAL EVALUATION OF POSTMENOPAUSAL BLEEDING: A PROSPECTIVE STUDY

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ABSTRACT

Introduction: Postmenopausal bleeding (PMB) accounts for 5% of gynaecological Out Patient Department presentations. Generally, 4% to 11 % of postmenopausal women will experience bleeding per vaginum. Although the chances of occurrence reduces , as time since menopause increases. About 71 million people of our population are aged over 60 years and out of these, 43 million are post menopausal women, as per the third consensus meeting of Indian Menopause Society (2008). Postmenopausal bleeding is one of the most common reason for referral to gynaecological department, with a strong suspicion of malignancy. **Materials and Methods:** This prospective observational study was conducted out on 75 patients at department of Obstetrics and Gynaecology Government medical college Srinagar for a period of 18 months from June 2018- December 2019. Postmenopausal women who came up with complaints of vaginal bleeding, with their last menstrual period at least one year back and who were 45 years and above. Informed consent was taken from the study subjects. Exclusion criteria for the study subjects was taken as; Patients having pre-mature menopause, Surgically induced menopause , Radiation induced menopause, Chemotherapy induced menopause. **Results:** In our study of 75 patients for evaluation of PMB it was found that majority of study subjects 44% had their menopause between the age of 50-54 years, 60% had menopausal bleeding between the age of 50-59 years, 41.33% were Para 2, 34.6% had associated hypertension, 16% had associated Diabetes mellitus, 37.3% were overweight , 2.6% were obese,5.3% had Hypothyroidism and 4% had no illness. **Conclusion:** Medical disorders like diabetes mellitus, obesity, hypertension etc are associated with higher risk of malignancy. Endometrial thickness of more than 4 mm and histopathology features of proliferative changes put a patient at high risk of malignancy. The main purpose of evaluation of post menopausal bleeding is to determine the exact cause, which in majority of the cases turns out to be benign cause, though the main worry of the clinician is premalignant and malignant leisions. Hence all the patients with post menopausal bleeding need to undergo endrometrial sampling.

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INTRODUCTION

Postmenopausal bleeding (PMB) accounts for 5% of gynaecological Out Patient Department presentations. Generally, 4% to 11% of postmenopausal women will experience bleeding per vaginum. Although the chances of occurrence reduce, as time since menopause increases (Goodman, 2014). About 71 million people of our population are aged over 60 years and out of these, 43 million are post menopausal women, as per the third consensus meeting of Indian Menopause Society (2008). Postmenopausal bleeding is one of the most common reasons for referral to gynaecological department, with a strong suspicion of malignancy (Seebacher et al., 2009). World Health Organization (WHO) defines menopause as cessation of menstruation permanently for a period of more than 1 year, which is resulted from a loss of ovarian activity (WHO, 1996). Postmenopausal bleeding (PMB) is defined as bleeding from the genital tract, more than twelve months after the last menstrual period in a woman not on hormone replacement (HRT) (Brand, 2007). Atrophy is the most common cause for Postmenopausal bleeding (PMB). Vaginal, endometrial and urogenital atrophy is a part of postmenopausal hypoestrogenism. Atrophy accounts as a cause for 60%–80% of all cases of PMB, while endometrial hyperplasia and cancer together account for 20% of cases.[1,3] The remaining cases are attributed to endometrial or cervical polyps (2% to 12 %), estrogen replacement therapy (HRT) accounts for 15% –25 % of cases, cervical cancer (<1 %).

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Further factors such as vaginal trauma, anticoagulants and bleeding from non-gynaecological sites are minor causes for Postmenopausal bleeding (PMB) (Goodman, 2014; Brand, 2007). Table 1 summarises these causes. Common menopausal age in Indians is 45- 50 years. Postmenopausal women constitute only 1% of female population (Hawwa, 1970). Majority of women referred to gynaecological Out Patient Department had pelvic ultrasound done for evaluation of endometrial thickness and assessment of any pelvic pathology.

Table I: Causes of Postmenopausal Bleeding (PMB) (Goodman, 2014)

Cause	Percentage
Atrophy	60–80%
Exogenous oestrogen	15–25%
Polyps (endometrial/cervical)	2–12%
Endometrial hyperplasia	10%
Endometrial cancer	10%
Cervical cancer	<1%

Transvaginal ultrasound (TVUS) is the first line investigation in women with Postmenopausal bleeding (PMB) (Goodman, 2014; Smith-Bindman, 2004). An endometrial thickness of 4mm–5mm typically correlates with low risk for endometrial disease[7]. Increased endometrial thickness to 20mm increases the risk of endometrial cancer, although there is no accepted cut-off limit for normal endometrial thickness and thus any women with risk factors and symptoms requires endometrial sampling (Brand, 2007).

MATERIALS AND METHODS

This prospective observational study was conducted out on 75 patients at department of Obstetrics and Gynaecology Government medical college Srinagar for a period of 18 months from June 2018- December 2019. Postmenopausal women who came up with complaints of vaginal bleeding, with their last menstrual period at least one year back and who were 45 years and above. Informed consent was taken from the study subjects.

Exclusion criteria for the study subjects

- Patients having pre-mature menopause
- Surgically induced menopause
- Radiation induced menopause
- Chemotherapy induced menopause

A Detailed history regarding name, age, marital status, parity and residence was taken. History of vaginal bleeding, its timing of onset, duration and amount of bleeding was taken. Associated symptoms like vaginal discharge, abdominal pain, and history of weight loss was taken.

Drug history with respect to hormones replacement therapy, tamoxifen therapy and anti-coagulation therapy was taken. Past medical and surgical history with regards regarding hypertension, diabetes mellitus, chronic liver diseas, blood dyscrasias was taken. Then general physical examination of patients was done.

Height, weight, BMI, blood pressure, temperature, pulse rate was recorded. Then systemic examination as done with special focus on abdominal examination per speculum and bimanual pelvic examination was done.

Transvaginal scan was done to assess endometrial thickness. All base line investigations including Full blood count, blood sugar random, Coagulation profile, X- ray chest and ECG were done. After obtaining fitness for anesthesia and taking written informed consent, Examination under anaesthesia (EUA), cervical smear and dilatation and curettage (D &C) were performed. Specimens were collected and sent for histopathological examination to pathology department.

RESULTS

In our study of 75 patients for evaluation of PMB it was found that majority of study subjects (44%) had their menopause between the age of 50-54 years as shown in Table II below.

Table II: Age of menopause of study subjects

Age of menopause (years)	No. of patients (N=75)	Percentage (%)
45-49	19	25.33%
50-54	33	44%
>55	23	30.6%

In our study of 75 patients for evaluation of PMB it was found that majority of study subjects (60%) had menopausal bleeding between the age of 50-59 years as shown in Table III below.

Table III: Age of menopausal bleeding

Age of postmenopausal bleeding (years)	No. of patients (N=75)	Percentage (%)
45-49	16	21.33%
50-59	45	60%
>60	13	17.33%

In our study of 75 patients for evaluation of PMB it was found that majority of study subjects (41.33%) were Para 2 as shown in Table IV below.

Table IV: Parity

Parity	Number of Patients (75)	Percentage (%)
Nulliparous	6	8%
Para 1	22	29.33%
Para 2	31	41.33%
Para 3	10	13.33%
Para 4 and more	6	8%

Associated Medical Disorders of the study subjects are shown in Table V below.

Table V: Associated Medical Disorders

Medical Disorder	No. of patients (N=75)	Percentage
Hypertension	26	34.6%
Diabetes mellitus	12	16%
Overweight (BMI 25 kg/m^2-29.9 kg/m^2)	28	37.3%
Obesity (>30kg/m^2)	2	2.6%
Hypothyroidism	4	5.3%
No illness	3	4%
Hormonal intake	0	0%

- Out of 75 patients 26 (34.6%) had associated hypertension
- Out of 75 patients 12 (16%) had associated Diabetes mellitus
- Out of 75 patients 28 (37.3%) were over weight
- Out of 75 patients 2 (2.6%) were obese
- Out of 75 patients 4 (5.3%) had Hypothyroidism
- Out of 75 patients 3 (4%) had no illness

Histopathological findings of the study subjects are shown in Table VI below. It was found that 17.33% had Proliferative endometrium , 14.66 % had Atrophic endometrium and 12% had Secretory endometrium. However endrometrial carcinoma was found only in 4% of study subjects.

Table VI: Histopathological findings of Study Subjects

Histopathology Findings	Number of Patients (75)	Percentage
Proliferative endometrium	13	17.33%
Atrophic endometrium	11	14.66%
Secretory endometrium	9	12%
Complex hyperplasia with atypia	8	10.6%
Squamous cell carcinoma of cervix	2	2.66%
Simple hyperplasia of endometrium	8	10.66%
Endometrial carcinoma	3	4%
Endocervicitis	9	12%
Endometrial polyp	3	4%
Cervical polyp	3	4%
No opinion	6	8%

DISCUSSION

In our study the age range of patients was between 45 years – 60 years and it was observed that most cases had age of menopause between 50 years to 54 years (44%). In other study by Lidor et al 226 postmenopausal bleeding cases revealed that the ages of patients ranged from 40-81 years with a mean of 56 years. Jasmina Begum et al in their study reported that mean menopausal age was 49.18 ± 3.69 years (Jasmina Begum and Rupal Samalm, 2019). In our study majority had post menopausal bleeding in the age group of 50 years - 59 years (60%). Agrawal et al in their study revealed that in maximum number of cases (55.33%) had duration of menopause 1 year to 5 years. The study conducted by Wong SF *et al*, Sousa R *et al*, Bharani B *et al*, and Sheikh M *et al* reported that post menopausal bleeding was more common in age groups , 38-94 years, 43-82 years, 52-65 years, 42-84 years respectively (Wong et al., 2001; Sousa et al., 2001; Bharani, 2008; Sheikh, 2000). In our study hypertension was present in 34.6% of cases, diabetes mellitus in 16% of cases and 37.3% were overweight. In a study conducted by Nirupama V et al reported risk factors of the patients with Post menopausal bleeding like obesity, hypertension and diabetes were 45%, 36% and 13% respectively. According to the study conducted by Syeda et al the most frequently observed medical co-morbidity was obesity as (72.7%) of the patients diagnosed as having carcinoma endometrium were obese (BMI> 29kg/m^2) (Fatima, 2014). In a study conducted by Brinton LA et al out of the total 13 cases of endometrial carcinoma 2 cases were nulliparous, 8 cases had low parity (P1-P2). 6 cases had early menarche (before 12 years of age) and 7 cases had late menopause (after 51 years of age). Nulliparity, early menarche, chronic anovulation, late menopause, unopposed endogenous and exogenous oestrogens and Tamoxifen therapy have all been proven to be risk factors for the development of endometrial hyperplasia and carcinoma (Brinton, 1992). In our study the histopathological analysis revealed that 17.33% had Proliferative endometrium, 14.66% had Atrophic endometrium, 12% had Secretory endometrium, 10.6% had Complex hyperplasia with atypia, 2.66% had Squamous cell carcinoma of cervix, 10.66% had Simple hyperplasia of endometrium. Thomas Gredmark et al in his study reported that the incidence of postmenopausal bleeding decreased with increasing age while the probability of cancer as the underlying cause increased. The peak incidence of endometrial carcinoma was found in women between 65 and 69 years of age. Endometrial histopathology showed: atrophy (50%), proliferation (4%), secretion (1 %), polyps (9%), different degrees of hyperplasia (10 %), adenocarcinoma (8 %), not representative (14 %), other disorders (3 %) (Thomas Gredmark, 1995). Lee WH *et al* Dangal G *et al* and by Kaur M et reported atropic endomaterium in 52.1%, 64.4% and 53% respectively, which the commonest cause for the post-menopausal bleeding. Meyer *et al* postulated the reason for the post-menopausal 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 of PMB (Thomas Gredmark, 1995; Lee, 1995; Dangal, 2003; Kaur, 2010).

Conclusion

Post menopausal bleeding is on the rise due to the increase in the average life span of individuals. Any incidence of postmenopausal bleeding should be primarily investigated on the lines of malignancy due to the overall increase in the reported incidences of malignancy. Medical disorders like diabetes mellitus, obesity, hypertension etc are associated with higher risk of malignancy. Endometrial thickness of more than 4 mm and histopathology features of proliferative changes put a patient at high risk of malignancy. The main purpose of evaluation of post menopausal bleeding is to determine the exact cause, which in majority of the cases turns out to be benign cause, though the main worry of the clinician is premalignant and malignant leisions. Hence all the patients with post menopausal bleeding need to undergo endometrial sampling.

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