

ORIGINAL RESEARCH

A study to find out the incidence of vaginal bleeding in postmenopausal women attending Gynaecology OPD and to assess the sonological and cytological profile among postmenopausal patients with abnormal uterine bleeding

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ABSTRACT

Introduction: The problem of unexplained vaginal bleeding is perhaps the most troublesome of the postmenopausal period. Postmenopausal bleeding is vaginal bleeding anytime after 12 months of amenorrhoea in a woman of menopausal age group. Hence, the present study was undertaken to find out the incidence of vaginal bleeding in postmenopausal women attending Gynaecology OPD and to assess the sonological and cytological profile among postmenopausal patients with abnormal uterine bleeding. **Materials and Method:** The present study was carried out among total 2465 patients who attended Department of Obstetrics and Gynaecology, J.L.N. Hospital and Research Centre, Bhilai, Chhattisgarh with complaints of postmenopausal bleeding over a period of 8 months. Cervical cytology was taken with Ayre's spatula from the cervix. Scrapings from the endocervix were taken with the help of endobrush. The slides were fixed with 95% ethyl alcohol and sent for cytology. Exfoliative cytology examination was done by the pathologist. Statistical analysis was performed using Statistical Package for Social Sciences (SPSS) Version 16.0. **Results:** In the present study, postmenopausal bleeding accounted for 4.3% of all the gynecological visits. Age range of the study subjects was 49-72 yrs. Mean of age was 55.63 ± 4.80 years with maximum number of patients between 51-55 years age (55%). Mean age of menopause was 47.48 ± 2.29 years. In maximum number of patients (79%), duration of menopause was between 1-10 years. Duration of menopause is inversely related to incidence of postmenopausal bleeding. In the present study, 24% patients had endometrial thickness >10mm, majority i.e., 47% patients had endometrial thickness between 6.1-10 mm and 29% patients had endometrial thickness 4.1- 6mm. None of the patients had endometrial thickness ≤ 4 mm. Maximum endometrial thickness found was 16mm. Mean endometrial thickness was 8.86 ± 5.682 mm. **Conclusion:** The present study found the incidence of postmenopausal bleeding to be 4.3%. All perimenopausal women must be educated about postmenopausal bleeding and its pathology and treatment available. Women must be educated about the various screening tools available and encouraged for screening at appropriate time interval.

Keywords: Postmenopausal bleeding; Cervical cytology; Vaginal bleeding

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INTRODUCTION

Menopause is the central external marker of the end of human female fertility. During this period of

transition from the reproductive to non-reproductive phase of life, the most striking feature is the permanent cessation of menstruation. The term

“Menopause” is derived from the greek words **menos** meaning month and **pausis** meaning cessation. It is defined as the permanent cessation of menstruation at the end of reproductive life resulting from loss of ovarian follicular activity. It is a retrospective diagnosis made when 12 months have elapsed after the final menstrual period. Menopause usually occurs between 45-55 years age, average being 50.7years.¹ The problem of unexplained vaginal bleeding is perhaps the most troublesome of the postmenopausal period. Postmenopausal bleeding is vaginal bleeding anytime after 12 months of amenorrhoea in a woman of menopausal age group. So, it does not apply to young women who had amenorrhea due to anorexia nervosa or a pregnancy followed by lactation. However, it can be applied to a younger woman following premature ovarian failure or insufficiency. The causes of postmenopausal bleeding are exogenous use of hormones, endometrial hyperplasia, cervical polyps and cervicitis, vaginal atrophy, carcinoma endometrium, cervix, ovary, tubes, vagina & vulva. Non gynaecological causes include trauma or bleeding disorders.² Hence, the present study was undertaken to find out the incidence of vaginal bleeding in postmenopausal women attending Gynaecology OPD and to assess the sonological and cytological profile among postmenopausal patients with abnormal uterine bleeding.

MATERIALS AND METHOD

The present hospital based prospective observational study was carried out in the Department of Obstetrics and Gynaecology, J.L.N. Hospital and Research Centre, Bhilai, Chhattisgarh among all the patients who attended Gynaecology OPD with complaints of postmenopausal bleeding over a period of 8 months.

A total of 100 women were selected for this study based on the inclusion and exclusion criteria.

Patients with postmenopausal bleeding after one year of amenorrhoea with age more than 45 years and or both parous and nulliparous women were included in the present study.

Exclusion criteria comprised of pregnancy and lactation, medical contraindications to any invasive procedures, postmenopausal bleeding due to vaginal causes, bleeding disorders, post hysterectomy state

and or patients who were on hormone replacement therapy.

Patients fulfilling the inclusion criteria were selected for the study through detailed history, examination general physical, systemic, gynaecological (per speculum, per vaginal), baseline investigations and ultrasonography. Explaining the nature and purpose of study, written informed consent (form attached) was taken from patient/guardian/relatives prior to the enrolment in the study as well as for diagnostic dilatation and curettage procedure. All the subjects were interviewed, examined and investigated as per the predesigned proforma (attached).

Cervical cytology was taken with Ayre’s spatula from the cervix. Scrapings from the endocervix were taken with the help of endobrush. The slides were fixed with 95% ethyl alcohol and sent for cytology. Exfoliative cytology examination was done by the pathologist. Endometrial aspiration cytology was done for all patients prior to dilatation and curettage. All patients were kept nil by mouth from night before the procedure. Patients were admitted on the day of procedure early in the morning and prepared for the procedure. Premedication: injection atropine 0.6 mg, injection diazepam 10 mg, intramuscular was given half an hour before the procedure. Patient was taken in lithotomy position. After sounding of the uterus, infant feeding tube is introduced in the uterine cavity. 10 ml of normal saline pushed through the infant feeding tube into the cavity and then aspirated using 10 ml syringe. Sample was sent for cytology and histopathological examination of unhealthy or suspicious cervix was done. All subjects were followed up after 10 days to look for any complications of the procedure and appropriate treatment was given according to histopathological findings.

After primary data collection, a master chart was prepared with the help of Microsoft excel sheet and data entered into it was analyzed according to the set objectives.

Statistical analysis was performed using Statistical Package for Social Sciences (SPSS) Version 16.0. Non-parametric (discrete) data was analyzed using chi-square test. Mean, standard deviation and percentage was used for analysis of parametric (continuous) data. A p value of < 0.05 was considered to be statistically significant.

RESULTS

Table 1: Distribution of patients attending gynaecology OPD

Out Patient Attendance	Total Patients	
	Number	Percentage
Patients attending Gynae OPD with various complaints during study period.	2465	-
Patients with C/O abnormal bleeding per vaginum.	1249	50.67
Postmenopausal women with C/O bleeding per vaginum.	106	4.3
Postmenopausal women with uterine bleeding.	100	-

During study period (18 months), total 2465 patients attended gynaecology OPD for various complaints. Out of 2465 patients, 1249 (50.67%) patients presented with complaints of abnormal bleeding per vaginum. Out of 2465 patients, 106 (4.3%) patients were of postmenopausal age group. Out of 106 postmenopausal patients, 100

patients who presented with uterine bleeding were enrolled for the present study for final analysis and calculations (table 1).

Table 2: Age wise distribution of patients

Age Group (years)	No. of Patients	Percentage (%)
46– 50	10	10
51 – 55	55	55
56 – 60	21	21
61 – 65	10	10
66 – 70	3	3
71 – 75	1	1
Mean ± SD	55.63 ± 4.80	

In the present study, maximum numbers of postmenopausal bleeding patients were in the age group of 51-55 years; 55 (55%). The mean age in this study was found to be 55.63 (± 4.80) years. The patients in the present study were between 49-72 years of age (table 2).

Table 3: Distribution of patients according to age of menarche

Age of menarche (years)	No. of Patients	Percentage (%)
12	25	25
13	27	27
14	45	45
15	3	3
Mean ± SD	13.26 ± 0.872	

Maximum number of patients had menarche at the age of 14 years: 45 (45%). The mean age of menarche was found to be 13.26 (±0.872) years (table 3).

Table 4: Distribution of patients according to age at menopause

Age at menopause (years)	No. of Patients	Percentage (%)
41 – 45	22	22
46 – 50	64	64
51 – 55	13	13
56 – 60	1	1
Mean ± SD	47.48 ± 2.29	

Maximum number of patients 64 (64%) had menopause between 46-50 years. In this study mean age of menopause was found to be 47.48 (±2.29) years (table 4).

Table 5: Distribution of patients according to endometrial thickness in ultrasonography

Endometrial Thickness (in mm)	No. of patients	Percentage (%)
≤4	0	0
4.1-6	29	29
6.1-8	27	27
8.1-10	20	20
>10	24	24
Mean ± SD	8.86 ± 5.682	

In the present study, 24(24%) patients had endometrial thickness >10mm, majority i.e. 47(47%) patients had endometrial thickness between 6.1-10mm and 29(29%) patients had endometrial thickness between 4.1- 6mm. Maximum endometrial thickness found was 16mm. Mean endometrial thickness was found to be 8.86 (±5.682) mm. None of the patients had endometrial thickness ≤ 4mm (table 5).

Table 6: Distribution of patients according to pap smear cytology

Pap smear cytology	No. of Patients	Percentage (%)
Normal	14	14
MIF smear (mild inflammatory smear)	15	15
DIF smear (dense inflammatory smear)	16	16
Atrophic smear	48	48
AGUS (Atypical glandular cells of unknown significance)	7	7

Papanicolaou smear screening was done in all patients. Atypical glandular cells were found in 7 patients. Although it is not a screening test for endometrial carcinoma, the incidental finding of atypical glandular cells favor endometrial pathology. Pap smear was done for cervical cancer screening also (table 6).

Table 7: Distribution of patients according to endometrial aspiration cytology report

Endometrial aspiration cytology report	No. of Patients	Percentage (%)
Atrophic	45	45
Proliferative	9	9
Secretory	4	4
Benign squamous cells	27	27
Atypical cells	15	15

Maximum number of patients 45(45%) had atrophic cells. Benign squamous cells was found in 27(27%) patients, proliferative in 9(9%), secretory in 4(4%) and atypical cells in 15(15%) patients (table 7).

DISCUSSION

Uterine bleeding in the postmenopausal period may be alarming and needs thorough evaluation, since this may be the only clinical manifestation pointing towards endometrial carcinoma.³ Thus, all postmenopausal bleeding patients should be evaluated thoroughly by the gynaecologist. Cervical carcinoma is preceded by premalignant lesions. It takes many years for premalignant lesions to progress to malignancy. Easy screening methods are available and if routinely screened premalignant lesions on the cervix can be detected and appropriate treatment will prevent the occurrence of cancer cervix.

Out of 2465 patients attending gynecological OPD, 106(4.3%) patients presented with complaints of postmenopausal bleeding. In the present study,

incidence of postmenopausal bleeding is found to be 4.3% whereas Carlos RC et al⁴(2001), Moodley M et al⁵ (2004) and Singh A et al⁶ (2005) have reported the incidence of postmenopausal bleeding among patients attending gynaecology OPD as 5.5%, 5% and 3.5% respectively.

In the present study, the age of the patients ranged between 49- 72 years. Maximum number of patients (55%) were in the age group of 51-55 years with mean age of 55.63 ± 4.80 years. There were only 4 patients with postmenopausal bleeding in the age group 'above 65 years'. So, as the age advanced, incidence of postmenopausal bleeding was decreased. This finding is similar to the previous finding (Gredmark T et al⁷).

Table 8: Comparison of age of presentation of postmenopausal bleeding with other studies

Authors	Year of study	Sample size (n)	Age range (years)	Mean age \pm SD (years)
Lidor A et al ⁸	1986	226	40-81	56
Gredmark T et al ⁷	1995	457	50-80	-
Singh A et al ⁶	2005	100	40-75	-
Opmeer BC et al ⁹	2007	540	37-90	62 ± 10
Bharani B et al ³	2008	25	52-65	55.25 ± 3.84
Present study	2016	100	49-72	55.63 ± 4.80

It was observed that maximum number of patients 64 (64%) had menopause between 46-50 years. In this study, mean age of menopause was found to be 47.48 ± 2.29 years. Out of 100 patients, only 1 had late menopause between 56-60 years. Possibly increased age of menopause decreases the chances of postmenopausal bleeding.

Table 9: Comparison of mean age of menopause with other studies

Authors	Years of study	Mean age \pm SD of menopause (years)
Kaw D et al ¹⁰	1994	47.52
Opmeer BC et al ⁹	2007	50 ± 4.9
Bharani B et al ³	2008	55.24 ± 3.84
Tandulwadkar S et al ¹¹	2009	46
Present study	2016	47.48 ± 2.29

The duration of menopause is the time interval between the onset of menopause and onset of postmenopausal bleeding. Maximum number of patients (79%) had the duration of menopause between 1-10 years. It was observed that duration of menopause was inversely related to frequency of postmenopausal bleeding.

Table 10: Comparison of duration of menopause with other studies

Author	Year of study	Maximum % of cases	Duration of menopause (years)
Singh A et al ⁶	2005	42	1-5
Opmeer BC et al ⁹	2007	53.33	1-9(12 \pm 11)
Present study	2016	79	1-10

In present study, 7 out of 79 patients (8.86%) with duration of menopause between 1-10 years were having malignancy, whereas 5 out of 21 patients (23.81%) with duration of menopause between 11-20 years were malignant.

Although, there was no statistically significant association between duration of menopause and histopathological findings, it was found that malignancy was more common in patients with duration of menopause from 11-20 years (23.81% malignant) than in patients with duration of menopause from 1-10 years (8.86% malignant).

Thus, it was observed that as the duration of menopause increased, chances of carcinoma increased proportionately.

In the present study, menstrual pattern one before menopause was analyzed in all patients. Maximum number of patients 34(34%) had hypomenorrhea followed by oligomenorrhea 28(28%), normal cycle 21(21%) and menorrhagia 17(17%).

7(41.18%) patients with history of menorrhagia one year before menopause were found to have malignant pathology which is statistically significant. (Chi square test, $p < 0.05$)

According to Kierse MJNC¹²(1973), malignancy was more common in postmenopausal bleeding patients with history of profuse bleeding one year before menopause than in those with history of scanty flow. It is suggested that all patients with menorrhagia should be thoroughly evaluated.

In the present study, 24 (24%) patients had endometrial thickness >10 mm, majority i.e. 47 (47%) patients had endometrial thickness between 6.1-10mm and 29 (29%) patients had endometrial thickness between 4.1-6 mm. None of the patients had endometrial thickness less than or equal to 4mm. Maximum endometrial thickness found was 16mm. Mean endometrial thickness was 8.86 ± 5.682 mm.

In the present study, out of 24 patients with endometrial thickness >10 mm, 8 (33.33%) patients had malignancy, 5 (20.83%) patients had premalignant lesions, 11 (45.83%) patients had benign pathology and no patient had normal pattern on histopathology. Malignancy was more common in patients with endometrial thickness >10 mm (8 out of 12 malignant patients). Thus, endometrial thickness > 10 mm was found to be associated with increased malignancy, which is statistically significant (chi square test, $p < 0.05$). Smith-Bindman R et al¹³(2004) in their study noted that >11 mm endometrial thickness yielded a higher risk of malignancy.

CONCLUSION

The present study found the incidence of postmenopausal bleeding to be 4.3%. All perimenopausal women must be educated about postmenopausal bleeding and its pathology and treatment available. Women must be educated about the various screening tools available and encouraged for screening at appropriate time interval.

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