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Etiological Factors of Post Menopausal Bleeding In a Tertiary Care Hospital.

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Abstract
Objectives*: To study the incidence of postmenopausal bleeding in our setup and etiological factors of PMB along with different methods of investigation considering the resources available in evaluation of etiological factors of postmenopausal bleeding.*
Methods: *This is a prospective study .One hundred and six women ≥45 years of age with at least one year of cessation of menses with one or more episodes of bleeding and without any clinically identifiable suspicious lesion anywhere were enrolled.They were initially subjected to cervical cytology, endometrial biopsy , TVS and subsequently to fractional curettage and cervical biopsy. Standard formulae for calculating sensitivity, specificity, positive and negative predictive values and efficacy were adopted. Student t –test and chi square tests were used to test the significance as appropriate and p <0.05 was considered significant.*
Results:*The mean age was 57.59±7.50 years (Mean±S.D), range 46-85years.The parity ranged between P_3 - P_5 with a mean of 2.25±1.54(mean±S.D). Mean age of menopause was 51.09±4.10 years(mean±S.D), range 45-59 years. Hypertension and Diabetes were associated in ten and six women respectively. Out of 100 patients most common cause of PMB was atrophic endometritis(72%), others are cervical carcinoma 8%, endometrial carcinoma 7%, endometrial polyp 7%, submucous fibroid 3%, hormone replacement therapy 2%, unknownaetiology 1%.*
Conclusion: *.Incidence of PMB in the present study varies from 14.12 per 1000 women at the age group of 46-55 years to 2.31 per 1000 women at the age group of 76-85 years. Incidence is high in the age group of 56-65 years (33%) and our study shows most common causes of PMB was atrophic endometritis 72%, cervical carcinoma 8%, endometrial carcinoma 7%, endometrial polyp 7%, submucous fibroid 3%, hormone replacement therapy 2%, unknown aetiology 1%.*
Key Words: *Postmenopausal bleeding (PMB), atrophic endometritis, endometrial cancer, Cancer cervix.*

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I. Introduction

Postmenopausal bleeding(PMB) is one of the important symptoms of concern in gynaecological practice.Danger lies in the fact that out of 22 percent of women who have significant pathology 10-15 percent of them have malignancy[1]. The incidence may be high when such a problem is considered in the perspective of a developing country.

An episode of bleeding occurring 12 months or more after cessation of menstruation is accepted as PMB.

In the developing country malignancy has been considered as an important cause. However atrophicendometritis, polyp, endometrial hyperplasia, hormone replacement therapy, forgotten IUCD are not uncommon.

PMB is currently one of the most important reasons for referral to gynaecological services, as it requires investigation in order to assess the risk of any significant abnormality. The initial diagnosis is difficult to make, due to differences in opinion as to what constitutes PMB and at what stage after a woman's last period bleeding could be considered to be normal or abnormal. Uncertainty exists regarding the most effective method of investigations to be used for PMB after referral to gynaecological services.

II. Materials And Methods

The present prospective study has been conducted in the department of Obstetrics &Gynecology, ChittaranjanSevaSadan College of Obstetrics, Gynaecology and Child Health, Kolkata . About 106 women ≥45years of age with one or more episodes of bleeding irrespective of amount and duration following one year of cessation of menses attending the OPD during 1st June 2017 to31st May 2018 were included in the study. First of all a thorough clinical history was taken of each patient. Important areas were enquired such as age of menarche and menopause, menstrual pattern prior to menopause, amount of bleeding, number of episodes, any associated symptoms like something coming out through introitus, urinary symptoms (dysuria, frequency etc.), history of hormone intake, hypertension or diabetes and family history of ovarian or endometrial carcinoma etc. After getting satisfactory history from the patient, a full clinical examination was done in each case, these included systemic and pelvic examination. Necessary permissions were obtained from the institutional ethical committee. Informed consent was taken from the participating women. When patient comes with postmenopausal bleeding it is very much important to exclude urethral and rectal bleeding from vaginal bleeding. Inspection of the perineum was done to detect any prolapse uterus and decubitus ulcer. Vulval inspection was done for any ulcer or growth. Speculum examination was done to note the condition of the cervix and vaginal wall. Bimanual pelvic examination and per rectal examination were done to note the size, shape, consistency and mobility of the uterus. Palpation of fornices were done to detect any adnexal pathology.

Women with palpableadnexal mass detected by abdominal and pelvic examination were excluded from our study. Smear was taken from the vaginal fornix,ectocervix and cervical canal, Pipelle sampler was used to obtain endometrial sample from endometrial cavity.

TVS was performed in all cases. Next, Cervical biopsy(Colposcopy guided) and fractional curettage under general anesthesia were performed . Hysteroscopy was done in a limited number of cases with recurrent episodes of bleeding where endometrial thickness by TVS was ≥5mm and routine endometrial biopsy was inconclusive.

Results were statistically analyzed according to Steel&Torrie(1980)to detect true positive(a),false negative(b),false positive (c),true negative (d) results in relation to different diagnostic tools in detecting malignancy.Sensitivity,specificity,positive predictive value, negative predictive value and efficacy were calculated using standard formulae. Student t-test and Chi-square were used to test the significance of variables as appropriate and $p < 0.05$ was considered significant.

III. Result And Analysis

One hundred and six women aged ≥45years who attended the outpatient department in ChittaranjanSevaSadan College of Obstetrics, Gynaecology and Child Health with one or more episodes of postmenopausal bleeding after at least one year of menopause were initially evaluated. Two of them had identifiable suspicious lesion in the cervix and 4 had palpable adnexalmasss and were excluded. Therefore hundred women were finally enrolled. Around 60% of them are urban people and 40% are rural people.

The mean age was 57.59±7.50 years (Mean±S.D), range 46-85years.The parity ranged between P_3 - P_5 with a mean of 2.25±1.54(mean±S.D). Mean age of menopause was 51.09±4.10 years(mean±S.D),range 45-59 years.Incidence ofPMB in the present study varies from 14.12 per 1000 women at the age group of 46-55 years to 2.31 per 1000 women at the age group of 76-85 years. Incidence is high in the age groupof 46-65 years (around 14%).

Table 1 :

Age Distribution	Total no of patients with PMB	Incidence (per 1000 women)
46-55	61	14.12
56-65	33	10.31
66-75	5	5.79
76-85	1	2.31

Hypertension and Diabetes were associated in ten and six women respectively. Out of 100patients most common causes of PMB was atrophic endometritis 72%, cervical carcinoma 8%, endometrial carcinoma 7%, endometrial polyp 7%, submucous fibroid 3%, hormone replacement therapy 2%, unknown aetiology 1%.

Cervical biopsy shows 3 patients suffering from intraepithelial neoplasia and 8 patients had invasive cervical malignancy.

Analyzing 100 patient's endometrial histology atrophicendometritiswere found in 72%, cervical carcinoma in 8%, endometrial carcinoma in 7%, endometrial polyp in 7%.

Colposcopy designated 55 as normal , 12 as unsatisfactory ,visualized atypical transformation zone in 8 , frank invasion in 3 with only 2 false positive and 3 false negative results.

Table 2 :

Causes Of PMB	Number Of Cases	Percentage
Atrophic Endometritis	72	72%
Cervical Carcinoma	8	8%
Endometrial Carcinoma	7	7%
Endometrial Polyp	7	7%
Submucous Fibroid	3	3%
Hormone Replacement Therapy	2	2%
Unknown Aetiology	1	1%

Endometrial thickness by TVS was ≥ 15mm in 8 women, 7 of them were diagnosed with endometrial carcinoma by histopathology.

Adnexal mass>5cm was found in 2 women. None of them had elevated CA-125,

Hysteroscopy was done in 65cases among them endometrial polyp was detected in 7 cases, sub mucous fibroid in 3 where as 72 had endometrialatrophy.patients diagnosed as endometrial carcinoma were mostly obese ($p<0.05$).

IV. Discussion

The present study included 100 women with PMB were investigated by different methods according to the clinical requirements. The primary intention of the study was etiological diagnosis of PMB specially to detect any malignant lesions in genital tract. The other objective was to study the incidence of PMB, to study the methods of investigation considering the resources available and to find out the high risk factors for the pathology. Postmenopausal bleeding, as depicted in the present study occurred most frequently in the age group 56-65 years (33%) and sharply declining after 65 years with only one case registered above the age of 75 years. The same pattern of age related incidence had been observed by Grademark T.et al1995[3].

Atrophic endometrium (72%)is the commonest pattern observed amongst the non-malignant group in the present series as well as in most of the other studies. [3, 4, 7.]

Our study showscervical carcinoma 8%, endometrial carcinoma 7% among malignant lesion of genital tract.

This is also shown by Grademark T. et al 1995 [3]who reported 8% Endometrial cancer in his series of 457 cases of PMB and only 6(1.31%) cases of cervical cancer.However, a study conducted in India by Veena .S.Naik et al[7]found a 39.14%cervical endometrial cancer in their series of 104 cases and is in accordance with the present study. A Jamaican study by Escoffery.C.Tet al[10] found 9.5%Endometrial cancer and 6.8%cervical cancer in a large series of 716 patients.

Endometrial cancer is found to occur in 6th decade of life at a statistically significant higher age than benign endometrial conditions .Endometrial thickness by TVS was significantly more in cancer cases in comparison to other benign pathologies. Similar age and endometrial thickness related pattern has been observed by Lawrence P.O'Connel et al [3]and Jina R etal[9]

Regarding the diagnostic tools, Pap's smear is much less accurate than colposcopy in screening the apparently normal looking cervix . Endometrial biopsy was a poor tool in diagnosing polyps and submucous fibroids in the present study as also shown by Lawrence P.O'Connel et al[4].

Our observation of no case of endometrial cancer in women with endometrial thickness ≤4mm correlated well with a large multicentric Nordic trial,[6] Gull B.et al[5] however, reported 0.6% cases of cancerendometrium with the same cut off endometrial thickness. Many authors [4,5,9]opined that endometrial biopsy is unnecessary if endometrial thickness is≤4mm.Hysteroscopy has been effectively used as a primary investigative tool in PMB by some authors[1,2,4.] .Office Hysteroscope was not available in our set-up.

CA125 concentration as a screening tool for ovarian malignancy achieved a high sensitivity with poor positive predictive value[11].

V. Conclusion

Women presenting with postmenopausal bleeding needs prompt and thorough evaluation keeping in mind the possibility of malignancy. In this clinicopathological study apart from conventional cervical cytology, cervical biopsy and D&C , few other special investigations like colposcopy, TVS, pipelle endometrial sampling, hysteroscopy and serum CA 125 as indicated were done depending upon the situation and requirements.Incidence of PMB in the present study varies from 14.12 per 1000 women at the age group of 46-55 years to 2.31 per 1000 women at the age group of 76-85 years. Incidence is high in the age groupof 56-65 years (33%) and our study shows most common causes of PMB is atrophic endometritis 72%, cervical carcinoma 8%, endometrial carcinoma 7%, endometrial polyp 7%, submucous fibroid 3%, hormone replacement therapy 2%ands unknown aetiology 1%.

Ethical Compliance : All procedures followed according to the ethical standards of the Institutional Ethics Committee and with the Helsinki declaration of 1975, revised in 2008.Informed consent was obtained from each subject included in this study.
CONFLICT OF INTEREST: The author declare that they have no conflict of interest.

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