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Histopathological Study of the Endometrium In Cases Of Post-Menopausal Bleeding In A Tertiary Government Hospital

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Abstract: *Postmenopausal bleeding is frequent in gynaecology and accounts approximately 5-10% of postmenopausal women. About 10% of women with postmenopausal bleeding have a primary or secondary malignancy.* ***Aim:*** *To study various clinical features in a patient with post menopausal bleeding. To study the different pathological changes in the endometrium and endocervix in post menopausal bleeding.* ***Results:*** *The mean age at menopause was 47 years. The earliest age at menopause was 42 years. The delayed age at menopause was 58 years. The duration of menopause varied from 7 months to 12 years. In majority of cases bleeding occurred with in 2 years of menopause.* ***Conclusion:*** *All malignant causes of post-menopausal bleeding had their bleeding episodes greaterthan 5 years after attainment of menopause. 86 cases out of 100 had uneventful menopause, 14 cases had peri-menopausal menstrual irregularly.*
Keywords: *Postmenopausal bleeding, menopause, Tirupati, Histopathology, Endometrial cancer.*

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I. Introduction

Postmenopausal bleeding (PMB) is defined as bleeding that occurs from the genital tract after one year of amenorrhoea, in a woman who is not receiving hormone replacement therapy (HRT) [1]. It may be heavy bleeding, just spotting or just like normal menstruation [2]. MENOPAUSE is defined as the permanent cessation of menstruation resulting from loss of ovarian activity (WHO, 1981) [3]. The climacteric is derived from the Greek klimakter 'rung of the ladder' meaning critical period of life. The climacteric is the equivalent of the peri-menopause which may start 5 to 10 years before the menopause and continue up to 5 or 10 years afterwards. It is transitional phase lasting for several years during which the genital organs involute in response to the waning of ovarian activity.

Menopause normally occurs between the ages of 45 to 50 years, the average age being 47 years. Some times a woman can have menstruation well beyond the age of 50 years. The delayed menopause may be related to good nutrition and better health. The age of menopause varies with the geographical, racial, nutritional and social factors.

AIM:

To study various clinical features in a patient with post menopausal bleeding. To study the different pathological changes in the endometrium and endocervix in post menopausal bleeding.

MATERIAL & METHODS

The present study was conducted in the Department of obstetrics and Gynaecology at Government Maternity Hospital, Tirupati. This was a cross sectional descriptive study of 100 cases of post-menopausal bleeding conducted during the period of 2005-2007. Sample size: 100

INCLUSION CRITERIA: All Post-menopausal women who came to Gynaecology out patient with abnormal vaginal bleeding after one year of amenorrhoea (or) cessation of periods.

EXCLUSION CRITERIA: Women with post menopausal bleeding, having clinical evidence of lesions in vagina, vulva and ectocervix were excluded from this study.

INVESTIGATIONS: Percentage of hemoglobin, Bleeding time, Clotting time, Erythrocyte sedimentation rate, Urine (albumin, sugar, microscopic examination), Pap smear, Fractional curettage, Cervical biopsy, Transvaginal sonography.

METHOD OF COLLECTION OF DATA: Informed written consent is taken. Each patient who fulfilled criteria was evaluated with history, clinical examination, speculum examination, bimanual examination, laboratory investigations. Finally fractional curettage done and endometrial curetting sent for Histopathological Examination.

PROCEDURE OF FRACTIONAL CURETTAGE:

Under fortwin and phenergan sedation, patient were put in dorsal position and external genitalia was painted and drapped, posterior vaginal retracted with sim's speculum and cervix was exposed. Surface smear from ectocervix and posterior fornix was taken with help of Ayer's spatula and fixed on 2 glass slides with cytofix spray.

Specimen (1): -The endocervix was curetted with endometrial biopsy curette and labeled as specimen 1.

Specimen (ii):- It consist curetting from endometrial cavity.

- Cervical biopsy was taken if cervix looked unhealthy or hypertrophied.
- All these were fixed in 10% formalin and sent for histopathalogical examination.

TREATMENT:

Treatment plan was formulated depending upon the histopathalogical report. It also depends upon established cause of post menopausal bleeding, irrespective of endometrial pattern. The patients were counseled and after informed consent, they were treated with hysterectomy either abdominal or vaginal route. Although the initial diagnosis may be benign, the possibility of progress to complex hyperplasia and endometrial cancer cannot be overstated continuous follow up is not possible in our setup, hence this surgical procedure reduces of risk endometrial cancer in women who present with post menopausal bleeding at early stage.

II. Results

TABLE 1: Comparison of Endometrial pattern in Post-Menopausal Bleeding

ENDOMETRIAL PATTERNS	PRESENT STUDY N=100	PERCENTAGE
Proliferative	24	24%
Secretory	3	3%
Endometrial Hyperplasia	39	39%
Atrophic	13	13%
Endometrial Polyp	1	1%
Endometritis	1	1%
Adenocarcinoma	2	2%
Squamous cell carcinoma	5	5%
Endometrial Stromal Sarcoma	2	2%
No Tissue Obtained	10	10%
Total	100	

Out of 100 cases studied 39 cases had hyper plastic endometrial pattern accounting for 39%. 24 cases had proliferative endometrial pattern accounting for 24%.

TABLE 2: Endometrial Patterns in relation to Age Groups

Endometrial Pattern	Age Group in Years				
	45-55y	56-65y	>65y	Total	%
Proliferative	24	--	--	24	24%
Secretory	3	--	--	3	3%
Endometrial Hyperplasia	29	8	2	39	39%
Atrophic	2	4	7	13	13%
Endometrial Polyp	1	--	--	1	1%
Endometritis	--	1	--	1	1%
Adenocarcinoma	2	--	--	2	2%
Squamous Cell Carcinoma	4	1	--	5	5%
Endometrial Stromal Sarcoma	1	1	--	2	2%
No Tissue Obtained	1	4	5	10	10%
Number of cases	67	19	14	100	
Percentage	67%	19%	14%		100%

Out of 100 cases studied 67 cases were below 55 years of age group, out of which 29 cases showed endometrial hyperplasia, 24 cases had proliferative pattern, 3 had secretory pattern, 2 cases had atrophic, another 2 cases had Adenocarcinoma.

TABLE 3: ***Comparison of Endometrial patterns in relation to parity***

Endometrial Pattern	Parity			
	Nulliparous	1-5	>5	Total
Proliferative	1	15	8	24
Secretory	--	3	--	3
Endometrial Hyperplasia	--	30	9	39
Atrophic	1	10	2	13
Endometrial Polyp	--	1	--	1
Endometritis	--	1	--	1
Adeno Carcinoma	1	1	--	2
Squamous Cell Carcinoma	--	5	--	5
Endometrial Stromal Carcinoma	--	2	--	2
No Tissue Obtained	1	9	--	10
No. of cases	4	77	19	100
Percentage	4%	77%	19%	100%

There were four nulliparous cases each of one showed proliferative, atrophic, Adenocarcinoma and in one no tissue obtained. There were total 77 cases in parity range of 1-5 out of which 15 cases showed proliferative pattern, 3 cases showed secretory, 30 cases showed endometrial hyperplasia, 10 cases showed atrophic.

Table 4: Comparison of Endometrial Patterns in Relation to Duration of Menopause

Endometrium	Duration of Menopause					
						%
Proliferative	24	--	--	--	24	24%
Secretory	3	--	--	--	3	3%
Endometrial Hyperplasia	27	9	2	1	39	39%
Atrophic	3	2	6	2	13	13%
Endometrial Polyp	1	--	--	--	1	1%
Endometritis	--	1	--	--	1	1%
Adeno Carcinoma	1	1	--	--	2	2%
Squamous Cell Carcinoma	3	1	1	--	5	5%
Endometrial Stromal Carcinoma	--	1	--	1	2	2%
No Tissue Obtained	4	1	2	3	10	10%
No. of Cases	66	16	11	7	100	100%
Percentage	66%	16%	11%	7%	100%	

In the present study there were 66 cases whose menopausal duration between 1-5 years out of which 24 cases had proliferative, 3 cases had secretory, 27 cases had endometrial hyperplasia, 3 cases had atrophic, each of one had endometrial polyp, Adenocarcinoma, 3 cases had Squamous cell carcinoma and in 4 cases no tissue obtained and 1 case no tissue obtained.

Table 5: Comparison of Endometrial Patterns in Relation To Mode Of Onset Of Menopause

ENDOMETRIUM PATTERN	MODE OF ONSET		
	Eventful	Uneventful	Total
1.Proliferative	---	24	24%
2.Secretory	---	3	3%
3.Hyperplastic	12	27	39%
4.Atrophic	---	13	13%
5.Endometrial Polyp	---	1	1%
6.Endometrites	---	1	1%
7.Squamous Cell Carcinoma	---	5	5%
8.Adenocarcinoma	---	2	2%
9.Endometrial Stromal Sarcoma	---	2	2%
10.No Tissue Obtained	2	8	10%
No. of Cases	14	86	100

In present study, out of 100 cases, only 11 cases had a eventful menopause and the endometrium was hyper plastic type. 3 cases had polymenorrhagia proceeding menopause and one had metrorrhagia before onset of menopause.

III. Discussion

Comparison of various endometrial patterns in Post-Menopausal Bleeding with various study groups

ENDOMETRIAL PATTERNS	NOVAK & RICHARDSON (1941) [4] N=137	KINTS et al [5] (1972) N=152	SAXENA (1975) [6] N=61	THOMAS GREDMARK [7] (1995) N=489	PRESENT STUDY (2006) N=100
1.Proliferative	8 (5.8%)	26 (17.10%)	6 (9.83%)	4.2%	24 (24%)
2.Secretory	---	2 (1.3%)	---	1.3%	3 (3%)
3.Endometrial Hyperplasia	64 (46.71%)	51 (33.5%)	31 (50.81%)	9.84%	39 (39%)
4.Atrophy	62 (45.25%)	22 (14.47%)	17 (27.86%)	49.9%	13 (13%)
5.Endometrial Polyp	---	9	5	9.2%	1 (1%)
6.Endometrites	---	---	---	---	1 (1%)
7.AdenoCarcinoma	3 (2.18%)	14 (9.2%)	2 (3.27%)	---	2 (2%)
8.Squamous Cell Carcinoma	---	---	---	---	5 (5%)
9.Endometrial Stromal Sarcoma	---	---	---	---	2 (2%)
10.No Tissue Obtained	---	28 (18.42%)	---	---	10 (10%)

The above table represents the summary of different endometrial patterns reported by various authors. It was observed in the present study that the incidence of cysto-glandular hyperplasia was the maximum and seen up to 11 years of post menopausal group; cysto glandular hyperplasia was present in 24 cases.

This shows that the post menopausal endometrium in cases of bleeding exhibits an oestrogenic effect, varying in degree (Novak 1944, 1966, procopes 1968). According to knits, this post-menopausal estrogen presumably originates from androstenedione of ovarian and adrenal origin, which is converted to oestrogen peripherally. Thus, post-menopause ovary can no longer be presumed to be inert, functionless gonad, but is seemingly capable of some steriodogenesis.

Typical hyperplasia is found in women beyond the menopause, even when there is no history of oestrogen therapy. In the present study, none of the patient had received exogenous estrogen.

The present study supports the work of Novak and Richardson (1941) [4], Kints et al (1972) [5], Saxena (1975) [6]. Novak in his study of 137 cases of post-menopausal bleeding found the highest incidence of actively stimulated endometrium over the period of 15 years post-menopausal age group [4].

According to Saxena [6], there were 23 cases (37.7%) in the 46-50 years age group. The present study shows 67 cases (67%) in the 45-55 age groups and it does not correlate with the study of Saxena. There is no obvious correlation between the age at menopause and the endometrial pattern in the causation of post-menopausal bleeding. (G.A.Kints, W. Calvert) [5].

According to Saxena [6], majority of his patients were multiparous which correlates with the present study most of patients were multiparous and 4 were nulliparous. According to Saxena, 3 patients were nulliparous, 35 had 1-5 children and 23 had more than 5 children (37.7%).

The majority of patients 60% had a period of amenorrhea for 5 years before bleeding occurred which is comparatively more than that of Saxena(39%) and G.A.Kints and W.Calvert(45.39%)

39.4% of patients had more than 5 years of amenorrhoca before bleeding occurred. This is in contrast to G.A.Kints (54.6%) and Saxena (60.65%). Our findings in the present study supports the work of Novak and Richardson where, they said that Cystic Glandular Hyperplasia is initiated by anovulatory terminal cycles of menstrual life.

The present study correlates well with study of Lee [8], where the most important cause of post-menopausal bleeding was carcinoma cervix (12.99%), followed by cervical polyp 6.7% as the most common cause of post-menopausal bleeding, which does not correlate with the present study.

As women over 50years of age are forming an increasingly large part of the population, post-menopausal bleeding, has become one of the common clinical problems of which a practicing gynaecologist is consulted. Any post-menopausal bleeding may be significant and requires a full and complete evaluation. The primary goal in management is to insure an absence of malignancy and further to identify, and treat high risk groups such as patients with endometrial hyperplasia, among post-menopausal bleeders. Hyperplasia of the endometrium includes a spectrum of histological changes which are considered to be precursors of endometrial cancer (Gusberg and Kalpan 1963 [9].

In a recently conducted study, it was reported that post-menopausal women with vaginal bleeding have a probability of endometrial carcinoma of approximately 9% [10]. Sadia Zulfiquar Cheema et al (2008) [11], M.C.Breijer et al (2010) [12] reported the incidence of endometrial cancer to be 10% in cases of PMB.
A study done by Mallik et al reported that mean age of PMB was 57.12 ± 9.13 years, Mean parity was 4.2, Mean duration since menopause was 9.2 ± 5.77 years [13].

IV. Summary and conclusion

100 cases of post-menopausal bleeding attending government maternity hospital, Tirupati, were analyzed to find out the type of Endometrium and etiology of post-menopausal bleeding. Endometrium obtained in 90 cases. In 10 cases, no Endometrial tissue obtained. The maximum incidence of post-menopausal bleeding occurred in the age group of 45-55 years. The mean age at menopause was 47 years. The earliest age at menopause was 42 years. The delayed age at menopause was 58 years. The duration of menopause varied from 7 months to 12 years. In majority of cases bleeding occurred with in 2 years of menopause. All malignant causes of post-menopausal bleeding had their bleeding episodes greater than 5 years after attainment of menopause.

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