

Clinical and Endometrial Histopathological Profile of Women with Perimenopausal and Postmenopausal Bleeding

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ABSTRACT

Introduction

Abnormal uterine bleeding (AUB) in perimenopausal and postmenopausal women is common and clinically important concern, as it may indicate anything from hormonal imbalance to serious pathologies like endometrial hyperplasia or carcinoma. The objective of this study was to assess clinical and endometrial histopathological characteristics in women with perimenopausal and postmenopausal bleeding.

Methods

This was a descriptive study carried out in the Department of Obstetrics and Gynecology at Maharajgunj Medical Campus, Tribhuvan University Teaching Hospital, Kathmandu from April 2018 to April 2019. All women > 40 years with abnormal uterine bleeding attending Gynecology OPD were taken. Endometrial biopsy was done and histopathological examination findings were studied.

Results

Among 328 women, 218 were with perimenopausal bleeding and those with postmenopausal bleeding were 110. The most frequent bleeding pattern in ladies with perimenopausal bleeding was menorrhagia in 93 (42.9%) while spotting in 68 (71%) in postmenopausal bleeding. Out of total 328 cases, 317 (96.6%) had benign endometrial findings and 11 cases (3.4%) had malignant endometrial findings. The most frequent histopathological finding in women with perimenopausal bleeding was secretory endometrium. Among postmenopausal bleeding 110 (91%) were benign and 9 (8.2%) had malignant histopathology.

Conclusion

The most frequent bleeding pattern in perimenopausal bleeding was menorrhagia and spotting in those with postmenopausal bleeding. Malignant histopathology was found more in postmenopausal bleeding than perimenopausal bleeding.

Keywords

Endometrial biopsy; histopathology; perimenopausal bleeding; postmenopausal bleeding; uterine bleeding

INTRODUCTION

Abnormal uterine bleeding (AUB) in perimenopausal and postmenopausal women is common but clinically important concern as it may indicate anything from hormonal imbalance to serious pathologies like endometrial hyperplasia or carcinoma.^{1,2} Incidence of abnormal uterine bleeding in 40-45 years age group is 57% and rest in age more than 46 years.³ Postmenopausal bleeding is frequent in gynecology and accounts for 3% of postmenopausal women.⁴ Postmenopausal bleeding (PMB) is especially worrisome with endometrial cancer found in 10% of cases.⁵ Causes of perimenopausal and postmenopausal bleeding are broadly divided under two benign and malignant headings. The common pathologies found histologically in AUB includes hormonal imbalance pattern, atrophic endometrium, endometritis, endometrial polyp, endometrial hyperplasia and endometrial carcinoma.⁴ Management of AUB is not complete without tissue diagnosis in perimenopausal and postmenopausal lady.

Studies revealed a wide spectrum of findings including atrophy, polyps, hyperplasia, malignancies⁶ yet many don't distinguish between perimenopausal and postmenopausal women despite their differing hormone profiles. Since, women > 40 yrs with perimenopausal and postmenopausal bleeding is one of the commonest presenting symptoms in gynecology outpatient department. This is the age group in which endometrial biopsy is indicated in case of abnormal bleeding patterns. Moreover most research comes from Western populations limiting their applicability to other regions with different genetics, healthcare access and sociocultural norms.^{7,8} This study will help to explore different clinical patterns and histopathological findings, thereby helps to identify those at higher risk of definite pathology/malignancy and provide timely and appropriate management.

Therefore this study aims at evaluating clinical and endometrial histopathological characteristics in women with perimenopausal and postmenopausal bleeding. This study will thereby help to assess risk of malignancy in women presenting with perimenopausal and postmenopausal bleeding.

METHODS

This was a prospective observational study carried out in the Department of Obstetrics and Gynecology, Maharajgunj Medical Campus, Tribhuvan University Teaching Hospital, Institute of Medicine, Kathmandu, Nepal after taking approval from Institutional Review Committee of Institute of Medicine for duration of 12 months from April 2018 to April 2019.

All women >40 years with abnormal uterine

bleeding presenting to Gynecology OPD, TUTH who underwent endometrial biopsy in OPD procedure room/ Minor OT were included in study. Total enumerative sampling technique was used, recruiting all eligible cases in the study. Patients who were on hormonal therapy, bleeding related to pregnancy, obvious cervical pathology, under warfarin/ heparin were excluded from study. Informed consent was taken from women prior to enrolling them in study. Detailed history regarding age, parity, menstrual pattern, age of menopause, interval of bleeding from menopause, medical, contraceptive and drug history were taken.

Endometrial biopsy was done under all aseptic condition with help of karman's cannula. Endometrial tissue was preserved in 10% formalin and HPE was done. Histopathological examinations reports were traced that was reported using Sternberg's Pathological Classification according to Department of Pathology, TUTH. Different clinical features and histopathological patterns in women with perimenopausal and postmenopausal bleeding were studied by using fixed proforma. A pretest of 10% of total sample size was conducted initially for validity of study and modifications were done after analyzing the shortcomings. Data entry and analysis was carried out with support of SPSS version 25. Chi square test was applied. Confidence interval of 95% was taken and p value of < 0.05 was considered statistically significant.

RESULTS

Over the study period from April 2018 to April 2019, there were total of 450 endometrial biopsies performed. Among them, 328 endometrial biopsies were performed for perimenopausal and postmenopausal bleeding.

Perimenopausal bleeding was frequent in age group 40-45 years attributing for 60% of the cases, followed by 31.7% in 46-50 yrs age group and 0.9% in 56-60 yrs age group (Table 1).

Postmenopausal bleeding was frequent in age group 46-50 yrs attributing for 36.4% subsequently

Table 1. Distribution as per age group

Age (Years)	Perimenopausal women	Postmenopausal women
40-45	132 (60%)	18 (16.3%)
46-50	68 (31.7%)	40 (36.4%)
51-55	16 (7.4%)	32 (29.1%)
56-60	2 (0.9%)	6 (5.5%)
>60	0	14 (12.7%)
<i>Total</i>	218	110

Table 2. Menstrual pattern in women with abnormal uterine bleeding

Menstrual Pattern	Peri-menopausal bleeding	Post-menopausal bleeding
Menorrhagia	93 (42.9%)	-
Metrorrhagia	77 (35.2%)	14 (25.4%)
Menometrorrhagia	40 (18.1%)	2 (3.6%)
Polymenorrhoea	6 (2,8%)	-
Polymenorrhagia	2 (1%)	-
Postmenopausal spotting	-	68 (71%)

Table 3. Endometrial findings in women with abnormal uterine bleeding

Histopathology	Perimenopause (% in group)	Postmenopause (% in group)	Total Number (%)
Proliferative	42 (19.2%)	2 (1.8%)	44(13.4%)
Disordered proliferative	45 (20.8%)	20 (18.2%)	65 (19.8%)
Secretory	78 (35.7%)	21 (19.1%)	99 (30.1%)
Atrophic	0 (0%)	10 (9.1%)	10 (3%)
Polyp	34 (15.6%)	32 (29.1%)	66 (20.2%)
Infection	7 (3.2%)	0	7 (2.1%)
Malignancy	2 (0.9%)	9 (8.1%)	11 (3.4%)
Hyperplasia	2 (0.9%)	5 (4.6%)	7 (2.2%)
Inadequate for opinion	8 (3.7%)	11 (10%)	19 (5.8%)
<i>Total</i>	218 (100%)	110 (100%)	328 (100%)

by 29.1% in the age group 51-55 yrs, 16.3% in >40-45 yrs , 12.7% in >60 yrs age group and 5.5% in 55-60 yrs age group (Table 1).

The most common bleeding pattern in women with perimenopausal bleeding was menorrhagia 93 (42.9%) followed by metrorrhagia 77(35.2%), menometrorrhagia 40(18.1%), polymenorrhoea 6(2,8%) and 2 (1%) had polymenorrhagia (Table 2).

The most common bleeding pattern in women with postmenopausal bleeding was postmenopausal spotting 68(71%), followed by metrorrhagia 14(25.4%) and few (3.6%) had menometrorrhagia (Table 2).

The most common endometrial histology in perimenopausal bleeding was secretory in 78(35.7%) and in postmenopausal bleeding was polyp 32(29.1%) (Table 3).

Chi-squared test showed that postmenopausal status is significantly associated with malignant endometrial findings ($p < 0.001$) (Table 4).

DISCUSSION

Perimenopausal and postmenopausal bleeding is of an alarming sign as it is the most frequent cause of endometrial carcinoma. Endometrial biopsy for histopathological examination is an important

Table 4. Association of endometrial findings with menopausal status

Menopausal status	Endometrial findings		p-value
	Benign	Malignant	
Perimenopausal	216	2 (0.9%)	<0.001
Postmenopausal	101	9 (8.2%)	
<i>Total</i>	317	11 (3.4%)	

diagnostic tool in gynecological practice and is used as the first step in the evaluation of patient with abnormal uterine bleeding. Traditionally although dilatation and curettage has been standard technique, it is being replaced by simpler, less expensive office biopsy methods of which is Karman cannula.⁹

In our study, aspiration of endometrial tissue by Karman cannula obtained sufficient tissue for diagnosis in 309/328(94.21%) women with perimenopausal and postmenopausal bleeding as a gynecological outpatient procedure. This result is more than the studies done by Mateo SH et al¹⁰, Tansathit T et al¹¹ where aspiration of endometrial tissue by Karman cannula obtained adequate tissue for diagnosis in 92.2% and 87.2% respectively.

Our study showed that out of 328 women attending Gynecology OPD, 218 had perimenopausal and 110 had postmenopausal bleeding. Most of the women (60%) presenting with perimenopausal bleeding were in the age between 40-45yrs while postmenopausal bleeding was between 46-50 yrs accounting for 36.4%.

Comparable results were found in research done by Singh A et al¹² on 300 patients with age ranging from 21-67 years, in which, abnormal bleeding was frequent in the 41-50 yrs age group. A similar result was seen by Muzaffar et al in their study of endometrium on 260 women in Rawalpindi, Pakistan.¹³ Similarly, Bhosle A¹⁴ showed among 112 perimenopausal women with abnormal uterine bleeding, 76% were in the age group of 41-45 yrs. There is increased abnormal uterine bleeding in this group is due to the anovulatory cycles.

In our study, the mean age of menopause was 48.5 yrs. This result is similar to the studies done by Rajbhandari S et al¹⁵ that was done on 2000 Nepalese women aged over 40years and in the study by Shrestha NS, Pandey A¹⁶ which was a hospital based study on 100 perimenopausal and postmenopausal women, where the average age at menopause, was 48.7 yrs and 48.02 yrs respectively. This range of age of menopause is similar in study done in South Asia which is 46-49 yrs¹⁷. The average age at menopause was more in Europe (50.5 yrs) and Australia (51.2yrs), subsequently followed by the USA (49 yrs)¹⁸.

In our study, the most common bleeding pattern among women with perimenopausal bleeding was menorrhagia 93(42.9%), followed by metrorrhagia 77(35.2%), menometrorrhagia 40(18.1%), polymenorrhoea 6 (2.8%) and polymenorrhagia 2 (1%).

Similar results were found in India by Singh A et al¹² where the frequent bleeding was menorrhagia (42%), while study done by Bhagel M³ and Bhosle A

et al¹⁴ showed maximum incidence of menorrhagia accounting for 52 % and 53.3% respectively.

However, in women with postmenopausal bleeding, the most common presentation was postmenopausal spotting 68 (71%), followed by metrorrhagia 14 (25.4%) and few (3.6%) had menometrorrhagia. Similar result was shown in study done by Mallick A et al⁴, 54.43% postmenopausal women had scanty vaginal bleeding and 6.43% had severe bleeding.

In our study, the frequent endometrial histology in perimenopausal bleeding was secretory 78(35.7%), while the most common endometrial histology in postmenopausal bleeding polyp 32 (29.1%). Benign endometrial pathology is seen in 216 (99.1%) and 101 (91.8%) and malignant endometrial pathology in 2(0.9%) and 9(8.2%) in perimenopausal and postmenopausal bleeding respectively.

In the study done by Nair et al¹⁹ on perimenopausal women in south india the most common histologic pattern was proliferative phase (35%) subsequently by secretory phase (26.5%), and the least being endometrial stromal sarcoma (0.5%).

Mallick A et al⁴ did study on postmenopausal women where they found benign pathology in 64(45.71%) subsequently by endometrial hyperplasia in 14 (10%) and the least being atypical hyperplasia in 1 case.

The incidence of endometrial cancer in postmenopausal women is 8.2% in our study which is lower in comparison to Western population which may be because the risk factor for endometrial cancer is low parity, most of the Nepalese women have high parity. The other risk factor for endometrial cancer is long term use of tamoxifen therapy, which may be probably less in our country as compared to western world. Endometrial cancer is a disease of postmenopausal age, so average life expectancy of female is less as compared to western countries. So incidence of endometrial cancer is less.

CONCLUSION

Menorrhagia was the most common bleeding pattern in women with perimenopausal bleeding whereas most of the women with postmenopausal bleeding presented with spotting. Malignancy was higher in postmenopausal than perimenopausal bleeding. Therefore, routine histopathological examination of the endometrium should be done to rule out malignancy in all cases of peri and postmenopausal bleeding.

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CONFLICT OF INTEREST

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AUTHOR CONTRIBUTIONS

Research concept: MB, KDB; Research design, Literature review, Research experiment, Data collection, Data analysis, Statistical analysis, Manuscript preparation : MB, KDB, NO, BK

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