Original Article

Endometrial Pathology In Abnormal Uterine Bleeding Among Perimenopausal Women: A Cross Sectional Study

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Abstract

BACKGROUND: A deviation from the regular menstrual cycle, including changes to its regularity, frequency, heaviness of flow, duration of flow, and amount of blood loss, is referred to as abnormal uterine bleeding (AUB). One-third of patients visiting the Gynecology OPD with this complaint indicate that it is a highly common gynecological problem. Abnormal uterine bleeding has replaced previously used inconsistent and ambiguous terms including menorrhagia, metrorrhagia, and dysfunctional uterine bleeding. It is an umbrella word that incorporates heavy menstrual bleeding, inter menstrual bleeding, and ovulatory problems.

OBJECTIVE: This study was aimed to evaluate the endometrial pathology in abnormal uterine bleeding among perimenopausal women.

STUDY DESIGN: Comparative cross sectional study

PLACE AND DURATION: This Study was conducted at Federal Government Polyclinic Hospital PGMI Islamabad from December 2021 to December 2022.

METHODOLOGY: One hundred and twenty-seven (n=127) perimenopausal women between the ages of 35 and 50 years were diagnosed with abnormal uterine bleeding. Age, parity, bleeding pattern, ultrasound findings, and histopathological diagnosis were recorded. SPSS version 22 was used to enter and analyses the data for analysis.

RESULTS: Majority 56(44.9%) of the participants were having age between 40-45 years with 1.3rd being nulliparous and 51(40.16%) being multipara. It was observed that a majority of patients 69(54.33) had prolonged menstrual duration. Evaluation of the pattern of uterine bleeding in perimenopausal womenrevealedthat73(57.48%) women had frequent and41(32.28%) had normal scan.

CONCLUSION: The study has effectively reported endometrial pathology in abnormal uterine bleeding among perimenopausal women. The secret to an effective treatment plan and the best possible outcome is accurate endometrial sampling analysis. By regular endometrial sampling, it would be possible to manage irregular uterine bleeding on an individual basis and avoid needless benign hysterectomy.

Key Words: Perimenopausal Women**, E**ndometrial Histopathology Abnormal Uterine Bleeding.

Introduction

The hormonal level (estrogen) is showing an overall increase following an increase in follicle-stimulating hormone (FSH), which is defined by insufficient progesterone secretion[1]. Any deviation from the regular menstrual cycle, including changes to its regularity, frequency, heaviness of flow, duration of flow, and amount of blood loss, is referred to as abnormal uterine bleeding (AUB). One-third of patients visiting the gynaecology OPD with this complaint indicates that it is a highly common gynaecological problem.[2] AUB has replaced previously used inconsistent and ambiguous terms including menorrhagia, metrorrhagia, and dysfunctional uterine bleeding[3-4]. It is an umbrella word incorporating heavy menstrual, intermenstrual, and ovulatory problems.

Between 3% and 30% of women aged 15 to 49 worldwide are thought to have AUB, with rates peaking around menarche and perimenopause. When irregular and intermenstrual bleeding is taken into account, the prevalence increases to 35 percent or higher[5]. By histologically examining endometrial materials acquired after dilatation and curettage in AUB cases, it is possible to study atrophic endometrium, chronic endometritis, endometrial polyps, hyperplasia, and malignancy. The AUB could have a number of structural or functional causes. A categorization system (PALM-COEIN) for causes of the AUB has been developed by the working group on menstrual disorders of the "International Federation of Gynaecology and Obstetrics."[6]

There are nine major groups, which are grouped together with the abbreviation PALM-COEIN ("polyp, adenomyosis, leiomyoma, malignancy, and hyperplasia -- coagulopathy, ovulatory dysfunction, endometrial, iatrogenic, and not yet classified"). The COEIN side of the classification involves examining the underlying medical abnormalities, while the PALM side refers to structural factors that may be assessed using imaging techniques and/or histopathology [7]. The degree of bleeding, the length of time it lasts, the regularity, and the frequency all affect how it behaves clinically. AUB can have structural (PALM) or non-structural (COEIN) causes, respectively[8].

METHODOLOGY

This comparative cross-sectional study was carried out at the Department of Obstetrics and Gynecology of our hospital. After seeking the relevant ethical approvals for this study, we used a non-probability consecutive sampling method to collect the data.

We used a 10.4% prevalence of AUB among perimenopausal patients to calculate the sample size. The sample size was calculated using the "Open Epi" sample size calculator, with a margin of error of 6% and a confidence interval of 95%.One hundred and twenty-seven (n=127) perimenopausal women between the ages of 35 and 50 years were diagnosed with AUB.

All of the women who qualified in accordance with the selection criteria registered. For endometrial sampling, dilatation and curettage (D & C) were performed on each patient. All participants gave their informed consent before the surgery began. Patients under the age of 35years, postmenopausal women, women with additional causes of abnormal uterine bleeding, coagulation disorders (thrombocytopenia, von Willebrand disease), hypothyroidism, liver diseases, patients receiving hormone therapy, and patients with insufficient endometrial samples were excluded from the study. A study of the patient's medical records was done to gather data on things like age, parity, and clinical presentation. To assess the endometrial thickness and other structural reasons for AUB, a pelvic ultrasound was performed. When endometrial thickness was less than 12 mm, the endometrium was regarded as thickened or hyperplasic. Age, parity, bleeding pattern, ultrasound findings, and histopathological diagnosis were all taken into account while analyzing the study's factors. SPSS version 22 was used to enter and analyze the data.

RESULTS

In this study, a total of 127 perimenopause women were included to evaluate the pattern of abnormal uterine bleeding and endometrial pathological spectrums. The majority 56(44.9%) of the participants were aged between 40-45 years with 1.3rd being nulliparous and 51(40.16%) being multipara. It was observed that a majority of patients

69(54.33) had prolonged menstrual duration. Evaluation of the pattern of uterine bleeding in perimenopausal women revealed that 73(57.48%)women had frequent and41(32.28%) had normal. Ultrasound findings, regularity of the menstrual cycle and endometrial thickness are described in Table I.

Comparisons of all histopathology diagnoses were done with the associated factors such as the age of patients, parity, frequency of menstrual cycle, duration of the menstrual cycle, and premenstrual bleeding. The histopathological picture showed a significant association with parity (0.04), duration of menstrual cycle (0.03) and premenstrual bleeding (0.004). Table II describes the Chi-Square association of various variables with histopathological presentations. The graphical comparison of the patients; parity and menstrual cycle characteristics is presented in Figure I.

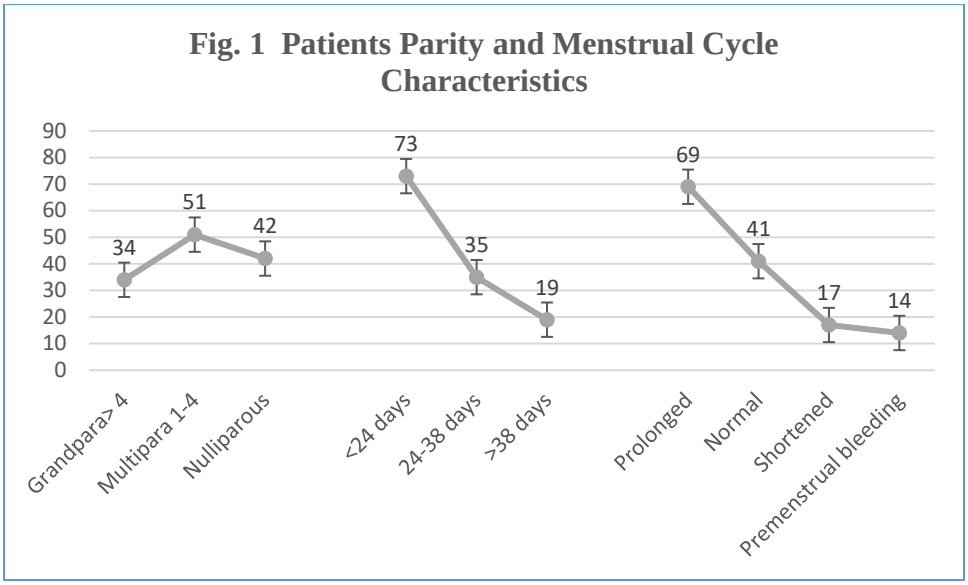
Table I Description of Patients' Characteristics

Patients' Characteristics	**n**	%
Age groups (Years)		
35-39	41	32.28
40-45	56	44.09
46-50	30	23.62
Parity	127	
Grand multipara >4	34	26.77
Multipara 1-4	51	40.16
Nulliparous	42	33.07
Menstrual Cycle Duration		
Prolonged >8 days	69	54.33
Normal 4-6 days	41	32.28
Shortened <3days	17	13.39
Frequent (<24 days)	73	57.48
Menstrual Cycle Frequency		
Normal (24-38 days)	35	27.56
Infrequent(>38 days)	19	14.96
Regularity		
Regular (2-20 days)	92	72.44
Irregular (>20 days)	35	27.56
Blood Volume		
Normal	30	23.62
Heavy with clots	97	76.38
Breakthrough bleeding	22	17.32
Premenstrual bleeding	14	11.02
Inter-menstrual bleeding/spotting	36	28.35
Ultrasound Findings		

Adenomyosis	18	14.17
Fibroid	25	19.69
Polyp	16	12.60
None	68	53.54
Endometrial Thickness on Ultrasound		
Less than 18mm	71	55.91
18mm or more	56	44.09

Table II Description of Patients' Histopathological Picture

Study Variables	**N**	Carcinoma	Endometritis	Proliferative endometrium	Hyperplasia with atypia	Secretory endometrium	P-Value
Parity							
Grand Para > 4	34	3(8.82%)	8(23.5%)	12(35.2%)	6(17.6%)	5(14.7)	
Multipara 1-4	51	1(1.96%)	27(52.94%)	14(27.45%)	7(113.72%)	2(3.92)	0.04*
Nulliparous	42	2(4.76%)	17(40.47%)	13(30.95%)	6(14.2%)	4(9.52%)	
Frequency of Menstrual cycle							
<24 days	73	2(2.73%)	32(43.83%)	27(36.98%)	7(9.58%)	5(6.84)	
24-38 days	35	1(2.85%)	8(22.85%)	15(42.86%)	6(17.14)	5(14.28%)	0.06
>38 days	19	0(0%)	12(63.15%)	4(21.05%)	2(10.52)	1(5.26%)	
Duration of Menstrual cycle							
Prolonged	69	2(2.89%)	36(52.17%)	22(31.88%)	8(11.59%)	3(4.34%)	
Normal	41	1(2.43%)	16(39.02%)	21(51.21%)	3(7.31%)	0(0%)	p-0.03
Shortened	17	1(5.88%)	7(41.1%)	6(35.29%)	2(11.76)	1(5.88)	
Premenstrual bleeding	14	0(16.7%)	4(28.57%)	7(50%)	2(14.28)	1(7.14%)	p-0.004*



DISCUSSION

Abnormal uterine bleeding is a menstrual cycle variation that differs from typical menstruation in that it is abnormally frequent, excessively protracted, irregular, and heavier than usual. This can be a significant disorder since excessive bleeding results in anaemia, which can impair quality of life and necessitate unnecessary hysterectomy.

In our investigation, perimenopausal women with unusual uterine haemorrhage provided 127 endometrial samples. We found that the majority of participants 56(44.09%) were between the ages of 40 and 45 years. Heavy bleeding with clots 97 (76.38%), and prolonged bleeding duration 69(54.33%) were the most common bleeding patterns. We found that the majority of the women in our samples 51(40.16%) were multiparous.

According to the findings of several published research, the prevalence of AUB in the age range of 41–50 years was observed to be 32%[4], 31%[9], 33.5%[10], and 37%[11], respectively. The disparity in percentages is the result of the difference in the age groups examined in various studies; for example, in the current study, women aged between 35 to 50 years were included, whereas Indrani M et al. found that 57.4% of women in the age group of 40 to 44 presented with AUB[1, 9, 12, 13].

In our study, the pattern of uterine bleeding revealed that 73 (57.48%) of women had frequent menstrual cycles, 69 (54.33%) had cycles that lasted a long time, 76.38% had heavy flow with clots, 28.35% of women complained of intermenstrual bleeding, and other studies revealed that prolonged bleeding was the most common AUB, found in 42% of patients, followed by heavy 35%, frequent 20%, and intermenstrual bleeding 19%[8].

Because it is the only clinical sign of endometrial cancer and other pre-neoplastic diseases in these people, AUB in perimenopausal and postmenopausal patients is concerning and requires careful assessment. We examined trends in both the histopathology and ultrasonography findings. In this series, we noticed that 56 (44.09%)% of the women had endometrial thickness greater than 18 mm and 55.91% had endometrial thickness less than 18 mm, whereas our findings revealed that 19.69% of patients had fibroid, 14.17% had adenomyosis, 12.6% had a polyp, and 53.54% had normal scan findings

Whereas another study reported 23% fibroid, 7.7% adenomyosis, 4.7% polyp, thickenedendometrium4%and58%normalscanfindings[12]. In Kenya, a study found 31% fibroid, 7% adenomyosis, 6% polyps, and 10% thickened endometrium [8].

Other studies (9, 14) also revealed proliferative endometrium as the most common finding. According to a study done in Pakistan in 2020, endometrial polyps were found in 15% of patients, endometrial hyperplasia in 12.5% of cases, abnormal endometrial proliferative in 8.3% of cases, and cancer in 2.5% of cases[11]. Proliferative phase endometrium, which was present in approximately one-third of cases, was also the most frequent histological pattern, followed by endometrial hyperplasia (24.8%), chronic endometritis (16.8%), secretory phase (16.8%), and endometrial polyps (4.2%) [15].

The findings of the current study are consistent with those of another study conducted in Pakistan, where 34% of the samples had proliferative endometrium [16] upon analysis of the histopathological results. Similarly, in another investigation, proliferative endometrium (22.8%) and endometrial hyperplasia (19.40%) were shown to be the most prevalent histological patterns of endometrium [17]. On the other hand, secretory endometrium, proliferative endometrium, endometritis, atypical hyperplasia, and carcinoma endometrial were all found in 38.88%, 34.92%, 3.1%, and 5.55% of cases, respectively[18,19]. In a study conducted in Nigeria, endometritis predominated by 25%, followed by atypical hyperplasia by 50%, and endometrial polyps by 31.7% and 43.8%, respectively. Our research revealed mixed results regarding histopathology[20].This can be due to the different study designs and sample sizes. Breakthrough, premenstrual and menstrual bleeding demonstrated a strong correlation with endometritis and polyps. Endometrium thickness had a significant connection with polyps, proliferative and secretory endometrium, and hyperplasia without atypia in the presence of polyps and secretory endometrium.

CONCLUSION

The study has effectively reported endometrial pathology in abnormal uterine bleeding among perimenopausal women. The secret to an effective treatment plan and the best possible outcome is accurate endometrial sampling analysis. By regular endometrial sampling, it would be possible to manage irregular uterine bleeding on an individual basis and avoid inessential benign hysterectomy.

CONFLICT OF INTEREST

The authors declared no conflict of interest.

FINDINGS

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