A study of causes of abnormal uterine bleeding with respect to FIGO classification in the patients at perimenopausal age

Jaideep M Palwade[1*], Charushila S Borole[2]

[1]Assistant Professor, Department of OBGY, MIMER Medical College, Talegaon Dabhade, Pune, Maharashtra, INDIA.
Email: palwadejaideep@gmail.com

Abstract
Introduction: The perimenopause is a critical time in a woman's life. Perimenopause is described as years prior to menopause that encompasses the change from normal ovulatory cycle to cessation of menses, these are perimenopausal transitional years. **Aims and Objective**: To study causes of Abnormal uterine bleeding with respect to FIGO classification in the patients at perimenopausal age. **Methodology:** women coming to the gynecological OPD with the complaints of excessive per vaginal bleeding and who were in the age group between 37 to 51 years were considered. Also, women complaining of abnormal uterine bleeding per vaginum in some form or other were studied. The study was carried out at over a period of 12 months from Jan 2010 to Jan 2011. In every patient per speculum examination and per vaginal examination is performed. According to findings on history and clinical examination provisional clinical diagnosis was made. Later Confirmed by Ultrasonography and Histopathology. **Result:** Most of the patients in the present study were between 37-41 years i.e. 56%, menorrhagia was the commonest menstrual disorder encountered in 58 cases (38.67%). DUB was the commonest clinical diagnosis made in perimenopausal patients 66 cases i.e. 44%. Here others include AUB due to thrombocytopenia, iatrogenic causes. As per FIGO ; AUB-A constituted 22%, AUB-L 21.33%, AUB-M 10.67%, AUB-C 2% and AUB-I 0.67% of total cases. **Conclusion:** FIGO Classification System (PALM-COEIN) for Causes of Abnormal Uterine Bleeding classification was very useful in categorizing cases of AUB. It suggests that etiology of AUB and also gives place for presence of multiple factors as cause of AUB in a particular case.
Keywords: Abnormal uterine bleeding, FIGO classification.

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INTRODUCTION

The perimenopause is a critical time in a woman's life. Perimenopause is described as years prior to menopause that encompasses the change from normal ovulatory cycle to cessation of menses, these are perimenopausal transitional years. Different opinions are expressed as which years in women's life should be accepted as perimenopausal period. Perimenopause refer to the time period in the late reproductive years, usually late 40s to early 50s. Characteristically, it begins with menstrual cycle irregularity and extends to 1 year after permanent cessation of menses. The more correct terminology for this time is menopausal transition. This transition typically develops over a span of 4 to 7 years, and the average age at its onset is 47 years.[1] During the menopausal transition, more erratic fluctuations in female reproductive hormones can lead to an array of physical and psychological symptoms such as Changes in menstrual patterns, Vasomotor symptoms, Psychological and metal disturbances, Sexual dysfunction, Somatic symptoms, Dry, itchy skin.[2] The term menopause signifies the permanent cessation of menstruation and the

end of reproductive potential. It is the culmination of some 50 years of reproductive aging-a process that unfolds as a continuum from birth through ovarian senescence to the menopausal transition and the postmenopause.[3] The term "menopause" is defined retrospectively after 12 months of amenorrhea without an obvious natural or pathologic cause.[4] Regular cyclic menstruation results from the choreographed relationship between the endometrium and its regulating factors. Changes in either of these frequently results in abnormal uterine bleeding. Abnormal uterine bleeding may display several patterns such as menorrhagia, metrorrhagia, menometrorrhagia, breakthrough bleeding, withdrawal bleeding. Causes of such bleeding may include neoplastic growth, hormonal dysfunction, reproductive tract trauma, infection, and coagulopathies. Abnormal uterine bleeding affects 10 to 30 percent of reproductive-aged women and up to 50 percent of perimenopausal women.[5] The woman of today entering the perimenopausal period is unique because of their vast numbers, consequences of the ageing of the "body boomers". Their reproductive history is also different from that of their ancestors. This age group has been aptly called "the next frontier in women's health care".[6] Symptoms Associated with Menopause Transition are Enumerated below[2]

Changes in Menstrual Patterns: Shorter cycles are typical (by 2–7 days)**,** Longer cycles are possible**,** Irregular bleeding (heavier, lighter, with spotting)**.**
Vasomotor Symptoms: Hot flushes Night sweats**,** Sleep disturbances.
Psychological and Metal Disturbances: Worsening premenstrual symptoms**,** Depression**,** Mood swings**,** Irritability**,** Loss of concentration**,** Poor memory.
Sexual Dysfunction: Vaginal dryness**,** Decreased libido**,** Painful intercourse**.** Somatic Symptoms Headache, Dizziness, Palpitations, Breast pain and enlargement, Joint aches and back pain.
Other Symptoms: Urinary incontinence, Dry, itchy skin, Weight gain. Causes of perimenopausal bleeding range from commonly anovulatory cycles; but heightened concerns about pathologic anatomy (hyperplasia, polyps, submucous myomas and even frank carcinoma) have made invasive diagnostic procedures common requirement in addition to clinical examination. Bleeding per vaginum is one of the commonest entities encountered in gynecological OPD. In perimenopausal group patients there are many causes leading to abnormal bleeding which may be local or expression of changed hormonal milleu. Age of onset of perimenopause in 95% women is 39 to 51 years Average age of onset is 46 years Duration of perimenopausal transition is 2 to 8 years. Average duration menopausal transition is 5 years.[7]

Indian women menopause occurs at 45 years and thus 40 years can be taken as lower limit of perimenopause.[8]

FIGO Classification System (PALM-COEIN) for Causes of Abnormal Uterine Bleeding in Nongravida Women of Reproductive Age[8]: There is general inconsistency in the nomenclature used to describe abnormal uterine bleeding (AUB), in addition to a plethora of potential causes—several of which may coexist in a given individual. It seems clear that the development of consistent and universally accepted nomenclature is a step toward rectifying this unsatisfactory circumstance. Another requirement is the development of a classification system, on several levels, for the causes of AUB, which can be used by clinicians, investigators, and even patients to facilitate communication, clinical care, and research. Authors of this article describes an ongoing process designed to achieve these goals, and presents for consideration the PALM-COEIN (polyp; adenomyosis; leiomyoma; malignancy and hyperplasia; coagulopathy; ovulatory dysfunction; endometrial; iatrogenic; and not yet classified) classification system for AUB, which has been approved by the International Federation of Gynecology and Obstetrics (FIGO) Executive Board as a FIGO classification system.

MATERIAL AND METHODS

Women coming to the gynecological OPD with the complaints of excessive per vaginal bleeding and who were in the age group between 37 to 51 years were considered. Also, women complaining of abnormal uterine bleeding per vaginum in some form or other were studied. A detailed history of the patient was obtained taking into account any associated symptoms like dysmenorrhea, dyspareunia, postcoital bleeding, intermittent spotting, unhealthy discharge, foul smelling discharge, heaviness and discomfort in the lower abdomen, backache and any other constitutional symptoms was obtained. The study was carried out at over a period of 12 months from Jan 2010 to Jan 2011. A detailed obstetric history was taken including total number of deliveries weather normal/caesarean/forceps, no. of abortions. H/o sterilization, contraception, especially IUCDs and OC Pills was noted. Any post-partum / post-operative complications, past history of similar episode was noted and the details of the treatment given, whether hormonal/surgical i.e. curettage were sought for. Personal history regarding any illness in the past, any specific drug consumption was noted. Family history of similar illness enquired. General and systemic examination was done. In every patient per speculum examination and per vaginal examination is performed. According to findings on history and clinical examination

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provisional clinical diagnosis was made. Later Confirmed by Ultrasonography and Histopathology.

RESULT

Table 1: Age Distribution of Women with Abnormal Uterine Bleeding at Perimenopausal Age

Sr. No.	Age Group of Patients in Years	No. of Patients	Percentage
1.	37-41	84	56
2.	42-46	38	25.33
3.	47-51	28	18.67
	Total	150	

Most of the patients in the present study were between 37-41 years i.e. 56%.

Table 2: Table Showing Distribution of Different Menstrual Disorders

Sr. No.	Menstrual Disorder	No. of Cases	Percentage
1	Menorrhagia	58	38.67
2	Continuous Bleeding followed by amenorrhea	37	24.67
3	Intermenstrual bleeding	30	20
4	Polymenorrhagia	24	16
5	Menometrorrhagia	13	8.67
6	Oligomenorrhea	8	5.33
7	Polymenorrhea	6	4

From the above table, menorrhagia was the commonest menstrual disorder encountered in 58 cases (38.67%).

Table 3: Clinical Diagnosis of Cases with Perimenopausal Bleeding

Sr. No.	Clinical Diagnosis	No. of Cases	Percentage
1	DUB	66	44
2	Leiomyoma	32	21.33
3	Adenomyosis	21	14
4	Polyp	18	12
5	PID	7	4.67
6	Carcinoma cervix	3	2
7	Carcinoma endometrium	0	0
8	Others	3	2
	Total	150	

DUB was the commonest clinical diagnosis made in perimenopausal patients 66 cases i.e. 44%. Here others include AUB due to thrombocytopenia, iatrogenic causes.

Table 4: FIGO Classification System (PALM-COEIN) for Causes of Abnormal Uterine Bleeding

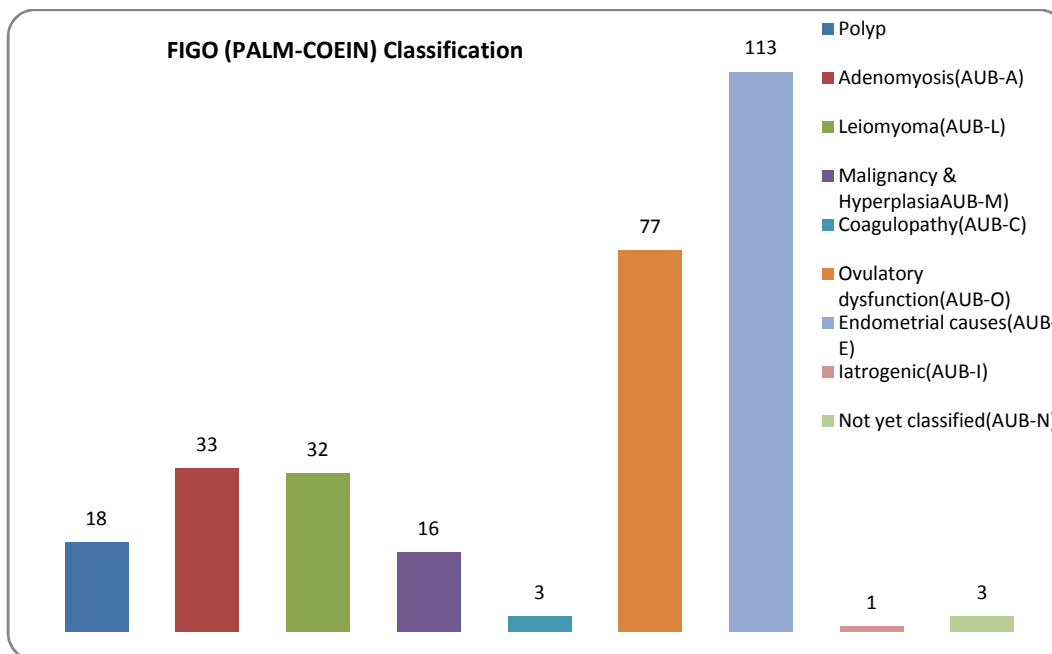| Sr. No.	FIGO (PALM-COEIN) Classification	Number of cases (Percentage of total)
1	Polyp (AUB-P)	18 (12)
2	Adenomyosis (AUB-A)	33 (22)
3	Leiomyoma (AUB-L)	32 (21.33)
4	Malignancy and Hyperplasia (AUB-M)	16 (10.67)
5	Coagulopathy (AUB-C)	3 (2)
6	Ovulatory dysfunction (AUB-O)	77 (51.33) [**]
7	Endometrial causes (AUB-E)	113 (75.33) [*]
8	Iatrogenic (AUB-I)	1 (0.67)
9	Not yet classified (AUB-N)	3 (2)

*p < 0.001, **p< 0.001

Figure 1: AUB-A constituted 22%, AUB-L 21.33%, AUB-M 10.67%, AUB-C 2% and AUB-I 0.67% of total cases

DISCUSSION

There is general inconsistency in the nomenclature used to describe abnormal uterine bleeding (AUB), in addition to a plethora of potential causes—several of which may coexist in a given individual. It seems clear that the development of consistent and universally accepted nomenclature is a step toward rectifying this unsatisfactory circumstance. Another requirement is the development of a classification system, on several levels, for the causes of AUB, which can be used by clinicians, investigators, and even patients to facilitate communication, clinical care, and research. This manuscript describes an ongoing process designed to achieve these goals, and presents for consideration the PALM-COEIN (polyp; adenomyosis; leiomyoma; malignancy and hyperplasia; coagulopathy; ovulatory dysfunction; endometrial; iatrogenic; and not yet classified) classification system for AUB, which has been approved by the International Federation of Gynecology and Obstetrics (FIGO) Executive Board as a FIGO classification system[13] In our study, we found that Cases from age group 37-51 year have been enrolled in the study. most of the patients in the present study were between 37-41 years i.e. 56%. There were 25.33% patients in 42-46 years' age group, 18.67% in 47-51 years' age group.

Table 5: Comparative Analysis According to Age (Percentage)

Age group	Sharma S *et al* (1993) [9]	Archana B *et al* (2010) [10]	Present Study
37-46 years' age group	76	76	81.33

Majority of dysfunctional uterine bleeding occurs amongst women aged 30 – 40 years.[4,3] Archana B, Michelle F (2010) found 76% of patients enrolled in their study for having AUB were 37-45 yrs. Old; which is comparable to our study. 81.33% of cases were included in the same age group. In a study by Sharma S (1993) 76% patients with abnormal uterine bleeding belonged to age group 37-45 years, result of which is also comparable to our study.

Table 6: Comparative Analysis of Menstrual Disorders

Menstrual Disorder	Pilli GS *et al* (2002) [11] (Percentage)	Present Study (Percentage)
Menorrhagia	46	38.67
Continuous Bleeding followed by amenorrhea	18	24.67
Intermenstrual bleeding	23	20
Polymenorrhagia	22	16
Menometrorrhagia	11	8.67
Oligomenorrhea	5	5.33
Polymenorrhea	7	4

Menorrhagia was the commonest menstrual disorder encountered in 58 cases (38.67%), followed by continuous per vaginal bleeding followed by amenorrhea in 37 cases (24.67%). Intermenstrual bleeding in 30 cases (20%), polymenorrhagia in 24 cases (16%) and menometrorrhagia in 13 cases (8.67%), oligomenorrhea in 8 cases (5.33%), poymenorrhea in 6 cases (4%).Our study correlated well with study done by Pillai GS *et al* (2002).

Table 7: Comparison of Clinical Diagnosis in Other and Present Study

Clinical Diagnosis	Horn SD *et al*(1996) [47] (Percentage)	Our Study (Percentage)
DUB	48.7	44
Leiomyoma	25	21.33
Adenomyosis	10	14
Polyp	10	12
PID	3	4.67
Carcinoma cervix	2	2
Carcinoma endometrium	1.3	0.00
Others	_	2

In Clinical Diagnosis DUB was the commonest clinical diagnosis made in perimenopausal patients 66 cases i.e. 44% followed by leiomyoma 32 cases i.e. 21.33 %. Others here include adenomyosis 21 cases (14%), polyp 12%, PID 4.67%, carcinoma cervix 2% and others constitute 2%. Here others include AUB due to thrombocytopenia, iatrogenic causes. our study correlated well with that of study by Horn SD *et al* (1996).

FIGO Classification System (PALM-COEIN) for Causes of Abnormal Uterine Bleeding[12]

Munro MG *et al* (2011) described this classification.There are 9 main categories, which are arranged according to the acronym PALM-COEIN (pronounced "palm-koin"): polyp; adenomyosis; leiomyoma; malignancy and hyperplasia; coagulopathy; ovulatory dysfunction; endometrial; iatrogenic; and not yet classified. In general, the components of the PALM group are discrete (structural) entities that can be measured visually with imaging techniques and/or histopathology, whereas the COEIN group is related to entities that are not defined by imaging or histopathology (non-structural).AUB-A constituted 22%, AUB-L 21.33%, AUB-M 10.67%, AUB-C 2% and AUB-I 0.67% of total cases.AUB-O was present in 51.33% of total cases, which included anovulatory unpredictable bleeding and variable amount of flow (AUB), which in cases results in HMB. AUB-E was present in 75.3% of total cases, which included predictable and cyclic heavy menstrual bleeding, AUB due to endometritis, prolonged heavy bleeding.After statistical calculation, p was <0.001 which shows AUB-E was highly significantly distributed than other final clinical diagnosis. After statistical

calculation, p was <0.001 which shows AUB-O is highly significantly distributed than other final clinical diagnosis.This newer classification seems to replace the older etiological classification of AUB.

CONCLUSION

FIGO Classification System (PALM-COEIN) for Causes of Abnormal Uterine Bleeding classification was very useful in categorizing cases of AUB. It suggests that etiology of AUB and also gives place for presence of multiple factors as cause of AUB in a particular case.

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