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Original Research Article

PALM-COEIN FIGO Classification for diagnosis of Abnormal Uterine Bleeding: Practical Utility of same at Tertiary Care Centre in North India

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Abstract: In an effort to create a universally accepted system of nomenclature to describe uterine bleeding abnormalities, an alternative classification system polyp, adenomyosis, leiomyoma, malignancy and hyperplasia, coagulopathy, ovulatory dysfunction, endometrial, iatrogenic, and not yet classified, known by the acronym PALM-COEIN, was published in 2011 by the International Federation of Gynecology and Obstetrics. The PALM-COEIN system classifies uterine bleeding abnormalities by bleeding pattern and etiology.The purpose of this study is to categorize 300 women with AUB presenting to the Gynaecology outpatient department (OPD) of Mahatma Gandhi Medical college and Hospital, Jaipur according to PALM-COEIN classification system. It is a retrospective study carried out on 300 patients presenting with complaint of abnormal uterine bleeding. They were evaluated on the basis of history, physical and local examination, USG pelvis, endometrial biopsy if required and other necessary investigations. Categorization was done according to the PALM-COEIN FIGO Classification and then the required treatment was given to the patient. After classifying the patients according to PALM-COEIN classification, it was found that ovulatory dysfunction was the most common cause of AUB in patients presenting to the Gynecology OPD (n=85, 28.33%). It was followed by leiomyoma (n= 68, 22.67%), endometrial causes (n= 62, 20.66%), adenomyosis (n=28, 9.33%), not classified (n = 25, 8.33%), iatrogenic (n= 13, 4.33%), malignancy, polyp (n = 8, 2.66%) and coagulation abnormalities contributing least to the classification (n= 3, 1%). Standardization of related terminology, a systematic approach to diagnosis and investigation, and a step-wise approach to intervention is necessary.
Keywords: Abnormal uterine bleeding, uterine polyp, leiomyoma, ovulation.

INTRODUCTION

The endometrium which lines the uterine cavity is one of the most dynamic tissues in the human body. It is characterized by cyclic processes of cell proliferation, differentiation and death in response to sex steroids elaborated in the ovary. Abnormal uterine bleeding (AUB) is a common cause for concern among women of reproductive age group and their families, as well as a frequent cause of visits to the Emergency Department and/or health care provider. Menorrhagia affects 10-30% of menstruating women at any one time, and may occur at some time during the perimenopause in upto 50% of women.

Abnormal uterine bleeding (AUB) may be acute or chronic and is defined as bleeding from the uterine corpus that is abnormal in regularity, volume, frequency, or duration and occurs in the absence of pregnancy [1, 2]. AUB refers to an episode of heavy bleeding that, in the opinion of the clinician, is of sufficient quantity to require immediate intervention to prevent further blood loss. AUB occurs in the setting of ovulatory dysfunction because of the effects of chronic unopposed estrogen on the endometrium. Abnormalities at any level of the hypothalamic-pituitary-ovarian axis can result in the interruption of the ovulatory cycle.

In an effort to create a universally accepted system of nomenclature to describe uterine bleeding abnormalities in reproductive-aged women, an alternative classification system polyp, adenomyosis, leiomyoma, malignancy and hyperplasia, coagulopathy, ovulatory dysfunction, endometrial, iatrogenic, and not yet classified, known by the acronym PALM-COEIN, was published in 2011 by the International Federation of Gynecology and Obstetrics and adopted by the American College of Obstetricians and Gynecologists[(3)]. The PALM-COEIN system classifies uterine bleeding abnormalities by bleeding pattern and etiology. The overarching term AUB is paired with

descriptive terms to denote bleeding patterns associated with AUB, such as heavy menstrual bleeding (instead of menorrhagia) and intermenstrual bleeding (instead of metrorrhagia). The term dysfunctional uterine bleeding - often used synonymously with AUB in the literature to indicate AUB for which there was no systemic or locally definable structural cause - is not part of the PALM-COEIN system, and discontinuation of its use is recommended [3].

By using this system, the possibility of contribution of more then one pathology in an individual symptomatic woman and also lack of contribution of a coincidental asymptomatic pathology toward AUB due to other causes can be recognized.

MATERIALS AND METHODS

The present study is a retrospective observational study conducted at the Obstetrics and Gynaecology Department of Mahatma Gandhi Medical College and Hospital, Jaipur.

During this study, 300 women were enrolled in the present study who met the inclusion criteria's.

Inclusion Criteria:

- Women between menarche to menopause.
- History of unpredictable, irregular menses with excessive bleeding for prolonged duration.
- Increased frequency of menses and intermenstrual bleeding for at least 3 months of duration.

Exclusion Criteria:

- Women with cervical cause for vaginal bleeding.
- Pregnant women with bleeding.

These patients underwent structured history, detailed physical and local examination, necessary blood investigations and pelvic ultrasonography. Endometrium and hysterectomy specimens were obtained for histopathology, if needed. According to the PALM-COEIN classification system, the possible causes were identified and the patients were categorized accordingly. Patients identified with polyp, adenomyosis and leiomyoma after per speculum and per vaginal examination followed by ultrasound were categorized under AUB-P, AUB-A and AUB-L respectively. Bleeding due to endometrial carcinoma diagnosed after either endometrial biopsy or hysterectomy on histopathological examination was included under AUB-M category. Patients taking anticoagulants and with defects of coagulation from younger age were grouped under AUB-C category. Bleeding with unpredictable, irregular timing and variable in amount was suspected to be due to ovulatory dysfunction and categorized under AUB-O. When abnormal menstrual bleeding occurred in cyclical and predictable pattern, typical of ovulatory cycles and no other cause is identified, it was considered as a disorder of endometrium and was placed under AUB-E. Patients presenting with abnormal bleeding due to gonadal steroid hormonal intake during the preceding 3 months or due to the usage of inert or medicated intrauterine device was categorized as iatrogenic and grouped under AUB-I. Women not fitting into any category were put under not yet classified category i.e. AUB-N [4-6].

Statistical Analysis

Data was analyzed and descriptive statistics were presented as frequencies and percentages.

RESULTS:

In present study, 300 patients were included after fulfilling all the inclusion criterias. All these cases were placed in the nine categories of the PALM-COEIN classification. Maximum patients were in the age group of 40-49 yrs (n=127, 42.33%) (Table 1.). Most common presenting complaint was heavy menstrual bleeding (n=186, 62%) (Table 2).

Table 1: Age distribution of study population

Age group (yrs)	Overall n=300 (%)
<20	3 (1)
20-29	13(4.33)
30-39	114(38)
40-49	127(42.33)
>49	44(14.66)

Table 2: Distribution of study population based on presenting complaint

Complaint	Overall n=300 (%)
Heavy menstrual bleeding	186 (62)
Irregular bleeding	67(22.33)
Intermenstrual spotting	10(3.33)
Frequent menses	37 (12.33)

Table 3: Distribution of study population based on PALM-COEIN classification

Category	Number of patients n=300 (%)
Polyp (P)	8(2.66)
Adenomyosis (A)	28 (9.33)
Leiomyoma (L)	68 (22.66)
Malignancy (M)	8 (2.66)
Coagulopathy (C)	3 (1)
Ovulatory dysfunction (O)	85 (28.33)
Endometrial (E)	62(20.66)
Iatrogenic (I)	13 (4.33)
Not yet classified (N)	25 (8.33)

After classifying the patients according to PALM-COEIN classification, it was found that

Ovulatory dysfunction was the most common cause of AUB in patients presenting to the gynae OPD (n=85, 28.33%). It was followed by leiomyoma (n= 68, 22.67%), endometrial causes (n = 62, 20.66%), adenomyosis (n=28, 9.33%), not classified (n = 25, 8.33%), iatrogenic (n = 13, 4.33%), malignancy and polyp each (n = 8, 2.66%) and coagulation abnormalities contributing least to the classification (n = 3, 1%), (Table 3).

DISCUSSION:

Abnormal uterine bleeding in women of reproductive age is a manifestation of any of a number of disorders or pathologic entities. The absence of a universally accepted method for the classification of AUB has impeded basic science, clinical investigations, and practical applications of medical and surgical therapy. Hence, adoption of new terminologies in clinical practice is needed for the effective management of AUB. Useful interpretation of results of various clinical and basic science research studies aiming at determining epidemiology, etiology, treatment and prognosis of AUB was hampered due to lack of consistent classification.

The present study primarily focused on categorizing the patients of AUB according to the PALM-COEIN classification similar to the studies done by Khrouf *et al.;* [8], Munro *et al.;* [3], Madhra *et al.;* [9], Bahamondes and Ali [10] so that planning, investigations, and treatment can be easier and done in a proper way. Most of the patients who presented with AUB in gynae OPD were in the age group 40-49 years (42.33%) And the most common presenting complaint was heavy menstrual bleeding (62%).

According to the study done by Qureshi and Yusuf [7] in 2013, maximum patients of AUB were classified under leiomyoma category, the number being 25% followed by ovulatory dysfunction (24%). Whereas, in a study done by Gouri *et al.;* [12] in May 2016, maximum number of patients were categorized under ovulatory dysfunction (27%) followed by leiomyoma (24.67%). Similarly in the present study also, ovulatory dysfunction was found to be the most common cause of AUB followed by leiomyoma (28.33 % and 22.66% respectively). (Table 3)

CONCLUSION:

The new PALM-COEIN classification system for AUB approved by multinational group of clinicians and investigators is expected to facilitate proper and easier diagnosis of etiology and treatment of women with acute and chronic AUB. To reach a precise underlying etiology is imperative for successful treatment of AUB.

However, it is recognized that this system requires periodic modification and occasional substantial revision depending on advances in knowledge and increasing availability of investigative options.

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