Original Article

Distribution of Causes of Abnormal Uterine Bleeding According to Polyp Adenomyosis Leiomyoma Malignancy and Hyperplasia Coagulopathy Ovulatory Dysfunction Endometrial Latrogenic not yet Classified Classification in a Tertiary Care Center

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Abstract

Introduction: Abnormal uterine bleeding (AUB) is defined as bleeding from uterine corpus that is abnormal in volume, regularity and timing. AUB affects 5-15% of women in reproductive age group. The Federation of Gynecology and Obstetrics in 2011 has introduced a newer classification system called PALM-COEIN for simplifying stratification of patients and help them in approaching treatment modalities.

Aims and Objectives: The aim of the study is to categorize women with AUB based on PALM-COEIN classification in a tertiary care hospital, Mysore Medical College and Research Institute.

Materials and Methods: The study material includes all women with AUB attending gynecology outpatient department from June 2016 to August 2016. It is a retrospective study.

Results: A total of 50 cases were studied during this period. The distribution of cases according to PALM-COEIN was polyps- 4%, adenomyosis- 6%, leiomyoma- 70%, malignancy- 6%, ovulatory dysfunction- 2%, endometrial- 6%, and not yet classified- 6%.

Conclusion: In our hospital fibroids are comprising the major cause of AUB followed by malignancies. This classification system helps us in the specific management of a broad group of disorders included under AUB.

Key words: Abnormal uterine bleeding, Intermenstrual bleeding, Polyp adenomyosis leiomyoma malignancy and hyperplasia coagulopathy ovulatory dysfunction endometrial latrogenic not yet classified

INTRODUCTION

Abnormal uterine bleeding (AUB) is a common cause of concern among women of reproductive age group and as well as a frequent cause of visits to the gynecology outpatient departments and/or health-care providers. Menorrhagia affects 10-30% of the menstruating women, and many occur during the perimenopause in up to 50% of the women.

AUB defined as bleeding from the uterine corpus that is abnormal in regularity, volume, and frequency or duration that occurs in the absence of pregnancy.[1] Because of the growing concerns and facing difficulties in designing multinational clinical trials and in interpretation of isolated research studies using these terminologies, the need for

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simpler terms with clear meanings was recommended that have a potential to be understood by health professionals and patients alike and that can be translated into most languages.[2] According to the suggestion of publication in 2007, a process was designed that leads to international agreement on terminologies and definitions that were used to describe the abnormalities of menstrual bleeding.[3] Then, all the abnormalities in uterine bleeding are considered one term AUB. In 2011, to standardize the terminology, diagnosis, and investigations of the causes of AUB, a new system for the classification of AUB as the International Federation of Gynaecology and Obstetrics (FIGO) classification system was approved by the FIGO executive board.[3,4] An internal group of clinicians investigators from six continents and over 17 countries contributed to bleeding abnormalities in it in an effort to create universal accepted system of nomenclature to describe uterine reproductive aged women, an leiomyoma, malignancy and hyperplasia, coagulopathy, ovulatory dysfunction, endometrial, iatrogenic and not yet classified known by the acronym PALM-COEIN was published alternative classification system, polyp, adenomyosis, in 2011 by the International FIGO and adopted by the American college of obstetrics and gynecologists (Table 1).

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 cause is not part of the PALM COEIN system and discontinuation of its use is recommended.[5]

By using this system, the possibility of the contribution of more than one pathology in an individual symptomatic woman and also a lack of contribution of a coincidental asymptomatic pathology toward AUB due to other causes can be recognized. This system will facilitate multi-institutional investigation in to the epidemiology, etiology and treatment of women and acute and chronic AUB.

MATERIALS AND METHODS

The retrospective study includes all women of reproductive age with AUB attending gynecology outpatient department (OPD) from June 2016 to August 2016.

Inclusion Criteria
- Women between menarche to menopause
- History of irregular menses with excessive bleeding for prolonged duration.

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

Table 1 : Palm coein classification

Structural causes	
P	Polyp
A	Adenomyosis
L	Leiomyoma
M	Malignancy and hyperplasia
Non structural causes	
C	Coagulopathy
O	Ovulatory dysfunction
E	Endometrial
I	Iatrogenic
N	Not yet classified

This study comprises 50 women of reproductive age with AUB either in duration, volume, or in frequency for at least 3 months presenting to OPD of Mysore Medical College and Research Institute, Mysuru, India from June 2016 to August 2016.

These patients underwent 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 polyp adenomyosis leiomyoma malignancy and hyperplasia coagulopathy ovulatory dysfunction endometrial Iatrogenic not yet classified (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-category C.[4]

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 the 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.
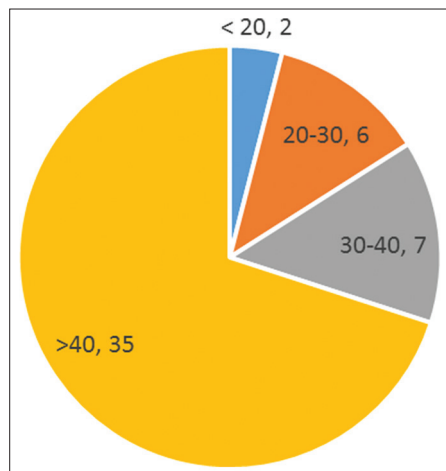
RESULTS

In this study, 50 patients were included after fulfilling all the inclusion criteria. All these cases were placed in

Table 2: Distribution of cases of AUB

Causes of AUB	Number of cases (%)
Polyp	2 (4)
Adenomyosis	3 (6)
Leiomyoma	35 (70)
Malignancy/hyperplasia	3 (6)
Coagulopathy	0
Ovulatory dysfunction	1 (2)
Endometrial	3 (6)
Iatrogenic	
Not yet classified	3 (6)

AUB: Abnormal uterine bleeding

Figure 1: Age distribution of cases

the nine categories of the PALM-COEIN classification. Maximum patients were in the age group of 40-49 years (70%) (Table 2). The most common presenting complaint was heavy menstrual bleeding.

Distribution of Causes of AUB in Present Study According to PALM-COEIN Classification

After classifying the patients according to PALM-COEIN classification, it was found that leiomyoma was the most common cause of AUB in patients presenting to the gynecology OPD (70%). It was followed by malignancy (6%), adenomyosis (6%), endometrial causes (6%), not classified (6%), polyp (4%), and coagulation abnormalities contributing least to the classification.

DISCUSSION

AUB 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.[3] Hence, adoption of new terminologies in clinical practice is needed for the effective management of AUB. A 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 a lack of consistent classification.

This study primarily focused on categorizing the patients of AUB according to the PALM-COEIN classification similar to the studies done by Munro et al.,[6] Priyanka et al.,[7] Bahamondes et al.,[3] Goel et al.,[8] and Gouri et al.[9] 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 (70%), and the most common presenting complaint was heavy menstrual bleeding (Figure 1).

According to the study conducted by Qureshi and Yusuf[10] in 2013, maximum patients of AUB were classified under leiomyoma category, the number being 25% followed by ovulatory dysfunction (24%). Whereas, in a study conducted by Gouri et al.,[6] in May 2016, the maximum number of patients were categorized under ovulatory dysfunction (27%) and followed by leiomyoma (24.67%). Similarly, in this study also, leiomyoma (70%) was found to be the most common cause of AUB followed by malignancy and adenomyosis (6% and 6%, respectively) (Table 1).

CONCLUSION

The new PALM-COEIN classification system for AUB approved by a 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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