SHORT REPORT

Study of causes behind abnormal uterine bleeding according to PALM- COEIN classification at a tertiary care hospital

Asma Ansari[1], Uzma Urooj[2]

Abstract

This descriptive observational study was carried out to determine the frequency of causes behind Abnormal Uterine Bleeding (AUB) amongst patients of reproductive age presenting to gynaecology OPD from January to June 2018 at the Combined Military Hospital Kharian, a tertiary care hospital. All women presenting with complaints of AUB were enrolled for the study, except for those who were pregnant, adolescent and postmenopausal. Detailed history, physical examination and relevant investigations were done and patients were categorised according to FIGO PALM-COEIN classification system and placed in nine main categories. A total of 238 patients were enrolled and the incidence of AUB among them was found to be 11% according to PALM-COEIN classification system. The frequency and percentage of all etiologies was calculated. Frequency of structural causes was Polyp 10 (6.7%), Adenomyosis 35 (23.5%), Leiomyomata 80 (53.7) and Malignancy 24 (16.1%). Nonstructural causes were Coagulation Disorders 5 (5.6%), Ovulatory 56 (37.6%), Endometrial Dysfunction 3 (3.4%), Iatrogenic 14 (15.7%) and Not-yet-classified 11 (12.4%). Development of a universally accepted classification system is a step towards facilitating clinicians, patients and researchers to communicate with each other and make objective management plans.

Keywords: Abnormal uterine bleeding, AUB, Palm-Coein classification, leiomyoma.

https://doi.org/10.5455/JPMA.2749

Introduction

Abnormal uterine bleeding or AUB refers to abnormally heavy bleeding and bleeding with irregular timing.[1] It is an umbrella term which includes heavy menstrual bleeding, intermenstrual bleeding and ovulatory disorders which has replaced previously used inconsistent and confusing terminologies like menorrhagia, metrorrhagia and dysfunctional uterine bleeding.[2] There was a lack of a standardised method of categorisation for various possible etiologies. PALM-COEIN classification system for AUB approved by FIGO is now a universally accepted system of nomenclature and classification. This is a practical pragmatic system which could be used worldwide by researchers and clinicians in treating women with AUB.[2] Generally, the components of the PALM group are discrete entities which are structural and can be measured visually with imaging techniques or histopathology, whereas the COEIN group is related to entities that are not defined by imaging or histopathology and are nonstructural. The system was designed recognising the fact that any patient could have one or several entities that could cause or contribute towards AUB and that a definable entity such as adenomyosis, leiomyomas and endocervical/ endometrial polyps may frequently be asymptomatic and, therefore may not be a cause of abnormal uterine bleeding. Abnormal uterine bleeding is a debilitating condition which has direct or indirect effects on the cost and quality of life. Investigations and treatment of patients should be individualised keeping in view the cause of AUB. A thorough evaluation of patients is important to exclude serious pathology such as carcinoma or complex atypical hyperplasia and the cause of bleeding.[3] The wider availability of diagnostic tools in an office setting has allowed prompt diagnosis and treatment of an increasing number of menstrual disorders which has led to immediate appropriate treatment. However, there might be a chance of overtreatment as the obvious structural defect could not be the cause of bleeding. Here lies the importance of a structured classification system. Reassurance and expectant management will be sufficient in a minority of patients, but even in cases of benign disease, some intervention might be required.[4] In most cases, AUB will significantly affect the quality of a patient's life and either medical or surgical treatment will be required.[5] Structured history is a useful screening tool with 90% sensitivity for the detection of many disorders.[6]

Abnormal uterine bleeding is common and clinicians have to manage these patients every day. The FIGO PALM-

[1]Combined Military Hospital Kharian, Pakistan;
[2]Army Medical College, Rawalpindi, Pakistan
Correspondence: Asma Ansari. e-mail: asmaansari31@gmail.com

COEIN classification system will facilitate accurate diagnosis and informed treatment options and continuity of care.[7] Treatment must remain individualised and should address pressure symptoms, desire for future fertility and contraceptive needs, as well as address the management of AUB. The life time prevalence of AUB in women is 30%[8] and almost one third of OPD patients present with complaints of abnormal uterine bleeding.[9] Pakistan is a developing country and socio-economic factors play an important role in deciding treatment options and there is a tendency in seeking treatment late.[10] AUB has significant impact on women's quality of life effecting their medical, social, economic and psychological wellbeing. Presentation of AUB is also quite different in different areas and regions.[11] Cause of AUB is also differently reported from institutions, cities and even countries. From a study in Pakistan, leiomyoma[12] was the leading cause, and from India adenomyosis followed by leiomyoma was reported as the primary underlying pathology.[13]

The purpose of this study was to evaluate the frequency of causes responsible for abnormal uterine bleeding in this population followed by a structured documentation of different etiologies for comparison within a hospital, nationally and internationally.

Patients, Methods and Results

This was a observational study done at the Combined Military Hospital Kharian, Pakistan from January 2018 to June 2018. Approval for conducting this study was taken from the institutional review board. Patients were selected by Non-Probability, Consecutive Sampling technique. A sample size of 238 cases was calculated with 95% confidence level, 5% margin of error and with an expected percentage of AUB as 19.5%. Patients between 20-48 years with abnormal uterine bleeding were included. Abnormal Uterine Bleeding was defined as excessive duration, volume, frequency and unpredictability of menstruation for a minimum of three months duration. Pregnant women, adolescents and patients with post-menopausal bleeding were excluded from this study. After detailed history and physical examination, patients were selected for relevant investigations according to the suspected etiology. Full blood count platelets and coagulation screen was done in patients to rule out anaemia and bleeding disorders. Best timed mid luteal progesterone level was checked to exclude ovulatory disorders. Endometrial sampling was done in women with endometrial hyperplasia on USG, persistent unexplained AUB or inadequate response to medicines. In women 45-48 years old endometrial biopsy was done immediately. Structural evaluation to detect endometrial, endocervical polyps and submucosal fibroids was done by Trans Vaginal and Trans Abdominal Ultrasonography. If imaging was inconclusive then hysteroscopy under anaesthesia was done. For diagnosis of polyps one or more clearly defined polyps were the criteria. Adenomyosis sonographic criteria was taken for presence of heterotopic endometrial tissue in myometrium and myometrial hypertrophy. The patients were placed in 9 main categories that were arranged according to the PALM-COEIN System which consists of structural causes including polyps, adenomyosis, leiomyoma, malignancy and hyperplasia. Nonstructural causes are coagulopathy, ovulatory dysfunction, endometrial, iatrogenic and not-yet-classified. Primary outcome measure assessed was the frequency of different causes of AUB according to PALM-COEIN classification. Data was collected and analysed using SPSS version 20. Descriptive statistics were applied for calculating the frequency and percentage of individual causes. Out of 2150 gynaecology patients seen, 238 (11%) patients had AUB. Demographic profile including age, parity and socio-economic status is shown in Table.

Table: demographic profile and causes of AUB (n= 238).

Variables	n (%)
Patients age	
below 30 years	53 (22.3)
31-45	167 (70.2)
above 45	18 (7.6)
Parity	
nulliparous	4 (1.7)
<3	49 (20.6)
>3 <5	173 (72.7)
>5	12 (5.0)
Socieoecnomic status	
Low	15 (6.3)
middle	217 (91.2)
high	6 (2.5)
Causes of AUB	
Polyp	10 (6.7)
Adenomyosis	35 (23.5)
Leiomyomata	80 (53.7)
Malignancy	24 (16.1)
Non- Structural (COEIN):	
Coagulation Disorders	10 (5.6)
Ovulatory/ PCOS	35 (37.6)
Endometrial Dysfunction	80 (3.4)
Iatrogenic	24 (15.7)
Not yet classified	11 (12.4)

PCOS: Pdycystic Ovarian Syndrome.

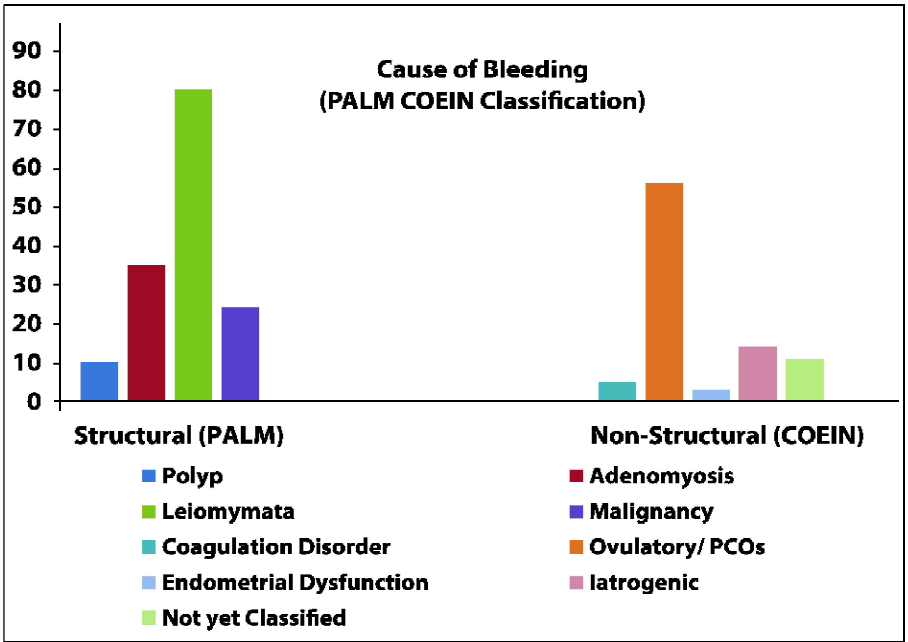

Figure: causes of AUB according to PALM COEIN classification.

Majority of the patients, 185 (77%), presented nine months after symptom development showing a tendency for late health seeking behaviour. Presenting complaints were varied and most of the patients had a combination. Predominant symptom which worried patients the most was the presenting symptom of heavy menstrual bleeding in 116 (48.7%), intermenstrual bleeding in 18 (7.6%), post coital bleeding in 4 (1.7%), pain 16 (6.7%) and irregular or no pattern in 84 (35.3%).

According to PALM-COEIN classification system AUB patients were classified mainly into 149 (62.6%) structural and 89 (37.4%) non-structural causes. Predominantly there was a structural lesion in our study population. Further causes of AUB are shown in Figure. Leiomyomata was the most frequent structural cause, whereas ovulatory disorders predominantly polycystic ovarian syndrome was the most common non-structural cause. Diagnostic modalities used were tans abdominal or trans-vaginal ultrasound scan used in all the 238 patients which diagnosed majority of anatomical problems. Hysteroscopy was used for diagnosis in 20 (8.4%) patients and MRI in 5 (2.1 %) patients. So majority were diagnosed by simple bed side diagnostic modality. Endometrial sampling showed simple hyperplasia and atypical hyperplasia in 20 (8.4%) of patients, whereas 4 (1.6%) had endometrial carcinoma. Out of total patients with polyps, 7 (2.9 %) had cervical and 3 (1.2%) endometrial polyps. Out of the nonstructural causes, ovulatory dysfunction was the commonest. Majority 56 (37.6%) were diagnosed by clinical features supported by laboratory criteria. Iatrogenic cause was previous hormonal treatment for AUB in 8 (3.3%) and contraceptive methods in 6 (2.5%). Chronic endometritis was the most common of the not-yet-classified group of 10 (4.2%) patients. Contribution of this study is highlighting the need for a classification system which is accepted universally and helps in the standardisation of terminologies. Menstrual disorders are a public health problem with a high incidence which contributes towards significant morbidity. Limitation was that the study population was from only one hospital and thus does not represent the true magnitude of problem

Conclusion

Development of a universally accepted classification system is a step towards facilitating clinicians, patients and researchers to communicate with each other and make objective management plans. This would also alert the health policymakers for more fund allocation towards the cause with the highest direct and indirect cost.

Disclaimer: None to declare.
Conflict of interest: No conflict of interest to declare.
Funding Sources: No funding was obtained for this study
Details of Ethical Approval: The study was approved by the institutional ethical and review board.

References

1. Singh P. Abnormal uterine bleeding-evaluation by endometrial aspiration. J Midlife Health 2018; 9: 32-5
2. Munro MG1, Critchley HO, Broder MS, Fraser IS; FIGO Working Group on Menstrual Disorders. FIGO classification system(PALM-COEIN)for causes of abnormal uterine bleeding in nongravid women of reproductive age. Int J Gynecol Obstet 2011; 113: 3-13 doi:10.1016/j.ijgo.2010.11.011
3. Whitaker L, Critchley HO. Abnormal uterine bleeding. Best Pract Clin Obstet Gynaecol 2016; 34: 54-65

4. Goldstein SR, Lumsden MA. Abnormal uterine bleeding in perimenopause. Climacteric 2017; 7: 1-7
5. Lethaby A, Farquhar C, Hickey M. Antifibnolytics for heavy menstural bleeding. Cochrane Database Syst Rev 2000; (4): CD000249.
6. Qureshi FU, Yusuf AW. Distribution of causes of abnormal uterine bleeding using the new FIGO classification system. J Pak Med Assoc 2013; 63: 973-5.
7. Khrouf M, Terras K. Diagnosis and management of formerly called "dysfunctional uterine bleeding" according to PALM-COEIN FIGO classification and the new guidelines. J Obstet Gynaecol India 2014; 64: 388-93.
8. Kolhe S. Management of abnormal uterine bleeding-focus on ambulatory hysteroscopy.Int J Womens Health 2018; 10: 127-36
9. Deeba F, Shaista, Khan B. Histological pattern of endometrial samples in postmenopausal women with abnormal uterine bleeding. J Ayub Med Coll Abbottabad 2016; 28: 721-4
10. Nagaish T, Rizvi F, Khan A, Afzal M. Patient satisfaction for levonorgesterol system and norethisterone for treatment of dysfunctional uterine bleeding. J Ayub Med Coll Abbottabad 2012; 24: 23-6
11. Ashraf MN, Habib Ur Rehamn A, Shehzad Z, AlSharani SD, Murtaza G. Clinical efficacy of levonorgestrel and norethisterone for the treatment of chronic abnormal uterine bleeding. J Pak Med Assoc 2017; 67: 1331-8
12. Parveen S, Ansari A, Naheed F, Sultana A. Pattern of lesion in hysterectomy specimens and clinical correlation. PJMHS 2014; 8: 465-8
13. Talukdar B, Mahela S. Abnormal uterine bleeding in perimenopausalwomen:correlation with sonographic findings and histopathological examination of hysterectomy specimens. J Midlife Health 2016; 7: 73-7