



ORIGINAL RESEARCH PAPER

Gynaecology

CLINICAL PROFILE OF ABNORMAL UTERINE BLEEDING ACCORDING TO PALM COEIN CLASSIFICATION

KEY WORDS: Polyp, Adenomyosis, Leiomyoma, Malignancy, Coagulopathy, Ovulatory, Iatrogenic

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ABSTRACT

OBJECTIVE: To study various causes of abnormal uterine bleeding and group them according to PALMCOEIN classification and thereby aid in deciding the management of various causes.

METHODOLOGY :All those with unpredictable,irregular,excessive duration,abnormal volume,and/or abnormal frequency of menses and intermenstrual bleeding were admitted, underwent structured history,physical examination and imaging studies.

RESULTS: In our study 59.2% were between 41-50 yrs.Most common cause of AUB was structural ie leiomyoma(38.8%).Most common multiple pathology was AUB A,L(Adenomyosis with leiomyoma)(20.3%).

In 21-40 yrs age group most common cause was AUB-E (36.4%),while in 41-50 and above 50yrs it was AUB-O.

Most common presenting complaint was heavy menstrual bleeding (53.8%),which was common in AUB-A,L(37.8%).In both acute and chronic AUB the most common cause was ovulatory dysfunction .

CONCLUSION: In our study we concluded that most patients were in 41-50 age group.The commonest clinical presentation was Heavy menstrual bleeding.AUB-O was the most common cause,in COEIN group and in PALM,leiomyoma(AUB-L).Both acute and chronic AUB had ovulatory dysfunction.

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}. Abnormal uterine bleeding (AUB) is a common problem among women in the reproductive age. AUB may be accompanied by pain and discomfort, cause significant social embarrassment, and have a substantial effect on health-related quality of life. AUB leads to loss of productivity and may result in surgical interventions including hysterectomy. Management of such common condition in a population with wide healthcare diversity requires uniform clinical practice guidelines. A unified practice guidance, based on scientific evidence helps in standardizing clinical management practices.Acute AUB is defined as bleeding in a non pregnant woman as sufficient quantity to require immediate intervention to prevent further loss³. Chronic AUB is defined as bleeding from the uterine corpus that is abnormal in duration, volume, and/or frequency and has been present for most of the previous 6 months.

To standardize nomenclature of AUB, a new system known by the acronym PALM-COEIN (**P**olyp; **A**denomyosis; **L**eiomyoma; **M**alignancy and **H**yperplasia; **C**oagulopathy; **O**vulatory Disorders; **E**ndometrial factors; **I**atrogenic; and **N**ot classified) was introduced in 2011 by the International Federation of Gynecology and Obstetrics (FIGO). The PALM-COEIN system is etiopathogenesis based, with PALM describing structural causes and COEIN demoting non- structural(functional) causes of AUB. 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)

AIMS AND OBJECTIVE

To study the various causes of abnormal uterine bleeding and group them according to PALMCOEIN classification and thereby aid in deciding the management of various causes.

METHODOLOGY

This study was conducted in Jubilee Mission Medical College, in the department of Obstetrics and Gynecology between December 2015 to June 2017 as a observational descriptive study. All consecutive cases satisfying the inclusion and exclusion criteria were selected .Those with unpredictable, irregular, excessive duration, abnormal volume, and/or abnormal frequency of menses and intermenstrual bleeding were admitted, and

underwent structured history, physical examination and imaging studies. Women with obvious cervical cause for vaginal bleeding were excluded. Possible underlying causes were categorised according to the PALM-COEIN classification system. Coagulopathy was labeled for all previously known cases of defects of coagulation from younger age. Ovulatory dysfunction is defined as unpredictable timing and variable amount of bleeding, while endometrial disorder referred to cases when AUB occurred in line with predictable/cyclical pattern. No structural alteration were appreciated in the uteri of the latter two categories. Iatrogenic category was characterized by the identification of hormone-steroid intake during the preceding 3 months and/or onset of symptoms following contraceptive device or method.

INCLUSION CRITERIA

1. Adolescents and with abnormal uterine bleeding
2. Reproductive age women with abnormal uterine bleeding
3. Perimenopausal women with abnormal uterine bleeding.
4. Postmenopausal bleeding.

EXCLUSION CRITERIA

Pregnant women

Sample Size = 260

STUDY DESIGN:- A OBSERVATIONAL- DESCRIPTIVE STUDY

RESULTS:

We included 260 women in our study, and of this 59.2% were between 41-50 yrs , thus showing that the majority of patients with AUB were in this age group. These women were classified based on PALMCOEIN classification as single pathology vs multiple pathology. When without subdividing into single and multiple pathologies the most common cause of AUB was structural i.e leiomyoma(38.8%) followed by functional cause which was ovulatory dysfunction (32.3 %).

Further when subdivided into single and multiple pathologies, most common single cause was functional cause which was ovulatory (26.5%)and most common single structural cause leiomyoma (14.2%) .

Most common multiple pathology cause was adenomyosis with leiomyoma(20.3%)

In our study <20 yrs was (0.8%) of which the only cause of AUB was coagulation disorder. In 21-40 yrs age group (28.4%) most common cause of AUB was leiomyoma (17.5%). In 41-50 , the

most common cause of AUB was ovulatory dysfunction(31.1%) followed by adenomyosis with leiomyoma which was (25.3%). In the group above 50 yrs the most common cause of AUB was ovulatory dysfunction(43.3%) followed by malignancy and hyperplasia(30%)

Most common presenting complaint was heavy menstrual bleeding (53.8%) which was most commonly seen the adenomyosis with leiomyoma group (37.8%). We also compared those who presented with acute AUB vs. chronic AUB. Acute AUB was most common in ovulatory dysfunction(26.2%) followed by leiomyoma which was (18.2%). In chronic AUB most common cause was also ovulatory dysfunction (26.8%) followed by adenomyosis with leiomyoma (26%).

Table 1: Comparison of cases of AUB having Leiomyoma in relation with age.

AGE(yrs)	AUB-L		Other causes of AUB		P value
	N	%	N	%	
≤40 (76)	27	35.5	49	64.5	0.480
> 40 (184)	74	40.2	110	60.8	

Out of the 76 cases of AUB in the <40 yrs age group leiomyoma was 35.5% and out of the 184 cases of AUB in the >40 yrs age group leiomyoma was 60.8%. The p value was 0.480 which was not statistically significant, thus showing that the occurrence of leiomyoma has no relation with the age.

Table 2: Comparison of cases of AUB having Adenomyosis in relation with age.

AGE(yrs)	AUB-A		Other causes of AUB		P value
	N	%	N	%	
≤ 40 (76)	21	27.6	55	72.4	0.781
> 40 (184)	54	29.3	130	70.7	

Out of the 76 cases of AUB in the age group <40 yrs age adenomyosis was seen in 27.6% and out of the 184 cases of AUB in the age group > 40 adenomyosis was seen in 29.3%. The p value of which was 0.781 which was not of any statistical significance, thus showing, proportion of adenomyosis was not related to age.

Table 3: Comparison of cases of AUB having Ovulatory Dysfunction in relation with age.

AGE(yrs)	AUB-O		Other causes of AUB		P value
	N	%	N	%	
≤ 40 (76)	11	14.4	65	85.6	0.001
> 40 (184)	73	39.7	111	60.3	

Out of the 76 cases of AUB in the age group < 40 yrs ovulatory causes were 14.4% and out of the 184 cases of AUB in the age group >40 yrs ovulatory causes were 39.7%. The proportion of ovulatory causes of AUB in age group >40 yrs was more than that of the proportion in age group <40 years which was found to be statistically significant(p value=0.001)

DISCUSSION AND CONCLUSION

The study was undertaken to stratify the causes of AUB based on PALM COEIN classification and to correlate the clinical and histopathology features so as to know the precise etiology of AUB for successful management of the same. There are new terminologies, definitions and classification put forth by the FIGO since 2011³. While menorrhagia and polymenorrhea were replaced by heavy menstrual bleeding and frequent menstrual bleeding respectively, the disorders previously named as dysfunctional uterine bleeding (DUB) were replaced by coagulopathy/ovulatory disorders/endometrial dysfunction in the PALM-COEIN classification.

In our study, out of the 260 patients studied, majority of the patients (59.2 %) belonged to the age group between 41-50 years, the same was found in a study conducted by Arnold et al⁴ (49%) and also by Rizvi et al⁵ (44.56%). The transition from ovulatory cycles to menopause begins in late 40's wherein there

will be rise in FSH levels leading to increased ovarian follicular response and high estrogen levels. The accelerated loss of ovarian follicles causes episode of anovulation, which leads to lack of progesterone, leading to irregular, unpredicted pattern of bleeding⁶.

In our study, maximum patients (38.4 %) had leiomyoma and it is the most common single structural cause(14.2%). This was similar to a study conducted by Betha et al⁷ in which Leiomyoma was the most predominant cause of AUB (30.4%). Similarly, Mishra et al⁷ and others have shown leiomyoma as the most common cause of AUB. Leiomyomas were sub classified based on the site as submucosal (L-SM) and others (L-O) which were Intramural and subserosal types, of which L-O constituted maximum number (about 80 %) which was similar to the studies done by Arnold et al⁵ and Betha et al⁷.

In our study, who presented with AUB, most common single cause was functional cause which was ovulatory (26.5%), which was similar to a study done by Mishra et al⁶, who also found that ovulatory was the most common functional cause 37.28%, similar finding in a study by Mohammed et al⁸ which was 22.5%.

In our study, adenomyosis was found to be 28% which was similar to a study conducted by Ratnani et al⁹ who had adenomyosis as 20%. In multiple causes of AUB adenomyosis with leiomyoma was found most commonly. This was found maximum in the age group 41-50 yrs which was similar to findings of Rizvi et al⁵ and Arnold et al⁴.

Goel et al¹⁰ found polyps to be 2.66% of their sample size which was similar to our study (2.69%). Doraiswami et al¹¹ found polyps to be 11.2% which was considerably higher than our study. However, Literature state that some but not all polyps present with AUB³

Malignancy and hyperplasia came upto 3.4% in our study as a cause of AUB with all cases in the age group above 50 yrs, which was similar to the study by Goel et al¹⁰. In a study done by Doraiswami et al¹¹ incidence of carcinoma endometrium was more common in the 51-60 years age group and also similar to data mentioned by Yusuf et al¹². There is increased incidence of endometrial hyperplasia with and without atypia in the early 50s and early 60s respectively¹³.

Coagulopathy was found in only 2 patients in our study (0.8%) similar to Quereshi et al¹⁴ (0.3%) and Betha K et al. (0.8%)⁷

Endometrial dysfunction was around 17.3% which was similar to the clinical diagnosis of endometrial dysfunction (12.28%) by Mishra et al⁶ and 20.66% by Goel et al¹⁰

Iatrogenic causes in our study was 1.9% which comparable study done by Ratnani et al⁹

Out of 260 pts, 53.8% of patients presented with heavy menstrual bleeding as the most common complaint followed by frequent menstrual bleeding, which was similar to Arnold et al⁵ which was 43.7% and similar finding noted by Rizvi et al⁵

In our study maximum patients attended hospital for treatment of acute onset AUB (50.5%) which was comparable to the study of Talukdar et al¹⁵(52.78%).

This study will help to have a better understanding of the etiology of AUB to develop effective management strategies. However multiple pathologies have to be more extensively studied as the exact cause of what etiology leads to AUB in multiple causes are unknown.

The PALM-COEIN classification has an advantage of considering of the entire range of possible aetiologies which should be followed by further investigation to arrive at a more accurate and consistent diagnosis. In our study we concluded that most of the patients were in the 41-50 age group. The most common clinical

presentation was Heavy menstrual bleeding. In our study, AUB-O was the most common single cause in COEIN group and AUB-L was the most common single structural cause in PALM group. In both acute and chronic AUB majority of patients had ovulatory dysfunction. More than half the patients had only a single pathology while the rest had multiple pathologies.

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