

Abnormal uterine bleeding; its prevalence, causes and management in a tertiary care hospital

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ABSTRACT

Objectives: To study the prevalence, causes and management of abnormal uterine bleeding (AUB) in Silchar Medical College and Hospital, Silchar. **Methods:** It was an observational study conducted in the Department of Obstetrics and Gynaecology, Silchar Medical College, Silchar from June 5th of 2018 to June 4th of 2019. **Results:** Prevalence of AUB was found to be 20.48%. The age-group presenting with AUB, most commonly was in between 41 to 45 years of age (46%), and the most common histological pattern was proliferative (42%). Heavy menstrual bleeding (menorrhagia) was found to be the most common problem in AUB patients (58.45%). As per PALM-COEIN classification, the most common type in our study was found to be AUB-L (30%). In this study, most common treatment/surgery in AUB patients done is hysterectomy (47%). **Conclusion:** Prevalence and pattern of AUB varies according to the age and parity of the patient. Specific diagnosis to rule out the cause of AUB and proper management in early stages will help to reduce patient's morbidity. After proper classification of AUB by PALM-COEIN, patients can be treated medically or surgically according to the cause leading to better success rate.

Keywords: Abnormal uterine bleeding, PALM-COEIN, heavy menstrual bleeding, hysterectomy.

Abnormal uterine bleeding (AUB) is a broad term which is defined as any type of bleeding which does not fall under the normal range for amount, frequency, duration or cyclicality¹. AUB is considered as one of the major and complex problem and is responsible for approximately one third of total outpatient gynaecological visits. Regular cyclic menstruation results from synchronized relationship between the endometrium and its regulating factors. Abnormal uterine bleeding results from any disturbances between the regulatory mechanism of pituitary ovarian axis or pelvic diseases². Abnormal uterine bleeding can affect 10-30% of women in reproductive age group and may affect up to 50% of perimenopausal women. Pattern and factors causing AUB varies with the age group and reproductive health of the

women³. Acute AUB is a type of bleeding in woman of reproductive age which requires immediate intervention to prevent further blood loss. Whereas, chronic AUB is bleeding from uterine corpus with abnormal duration volume or frequency and is present for past 6 months⁴.

In the year 2011, the FIGO has published the PALM-COEIN classification system for standardizing terminology, diagnosis and investigations in women presenting with AUB¹. The classification system includes nine categories which are organised as "PALM-COEIN". PALM group consists of five structural aetiologies which can be diagnosed with an ultrasound and/or histopathology (polyp, adenomyosis, leiomyoma, malignancy and hyperplasia). However, COEIN group comprises of non-structural entities

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- coagulopathy, ovulatory dysfunction, endometrial, iatrogenic, and not yet classified.

Materials and methods

This study is a prospective cohort study done in the department of obstetrics and gynaecology, Silchar Medical College and Hospital, Silchar, Assam, from June 5th of 2018 to June 4th of 2019 for a period of one year.

Inclusion criterias:

- All patients attending gynae OPD presenting with AUB for prevalence of AUB during the study period.
- All admitted cases with AUB of age upto 50 years.

Exclusion criterias:

- Pregnancy and pregnancy related conditions.
- Females more than 50 years.
- Patients with bleeding disorders.
- Patients with anatomical causes.

For prevalence of AUB, total numbers of patients of AUB cases among the total numbers of patients attending gynaecology OPD is taken. Data is taken from a specially designed performa, case recording performa (CRF) for admitted cases, considering patient’s age, pattern of bleeding, duration of bleeding, menstrual history, obstetric history, physical and gynaecological examinations, laboratory investigations, sonological reports, diagnosis & surgical procedures among the patients admitted with AUB during the said study period, and were screened for eligibility criteria. A total of 100 cases were analysed and histological diagnosis was made. In the subset of patients undergoing hysterectomy, histopathological reports were recorded for comparison.

Data was assessed by microsoft excel and managed in SPSS version 16. The outcome of statistical analysis was calculated as percentage and proportion and represented as tables and figures. AUB was classified according to PALM-COEIN classification.

Results

It is observed that the prevalence of AUB is 20.48%, 2790 cases of AUB out of total 13626 patients attending the gynaecology OPD in the said study period of one year. Highest incidence is found in age groups of 41-45 years of age followed by 46-50 years, then 36-40 years and 26-35 years. Least incidence is found in <25 years age group as in figure 1. It was found that AUB is more common with high parity (38% with parity >3) figure 2. Duration and different

patterns of abnormal uterine bleeding are shown in figure 3 and table 1. Most of the patients had mild bleeding followed

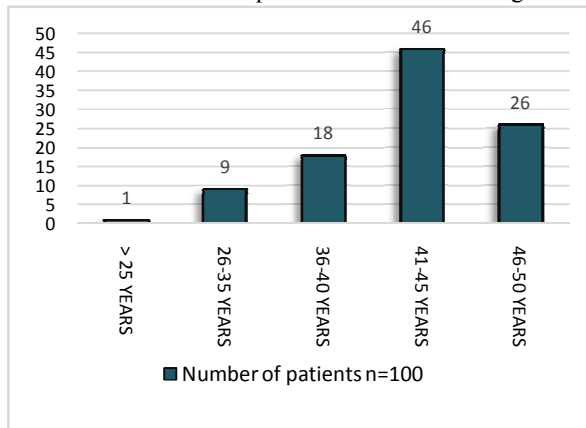


Figure 1: Age distribution of study population

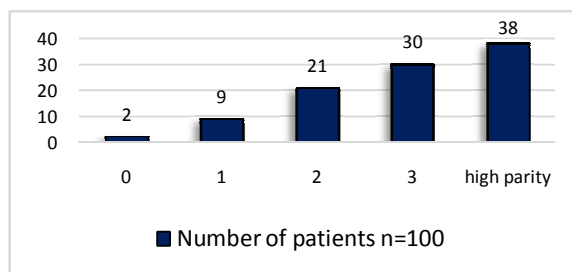


Figure 2: Distribution based on parity

by moderate in amount. Heavy menstrual bleeding (HMB) followed by inter menstrual bleeding (IMB) was more as the

Table 1: Different pattern of abnormal uterine bleeding

Types of bleeding	Number of patients N=100	Percentage
Heavy menstrual bleeding (menorrhagia)	68	68
Inter menstrual bleeding (metrorrhagia)	14	14
Heavy & prolonged bleeding (menometrorrhagia)	06	06
Frequent menstrual bleeding (polymenorrhoea)	12	12
Oligomenorrhea	0	0
Total	100	100

type of bleeding pattern. Medical disorders with AUB were found in a sub-set of patients. Medical disorders were listed in present study e.g. hypothyroidism, diabetes mellitus, hypertension, anaemia etc.

On sonographic examination of 100 cases, normal scan was most common followed by fibroid then adenomyosis

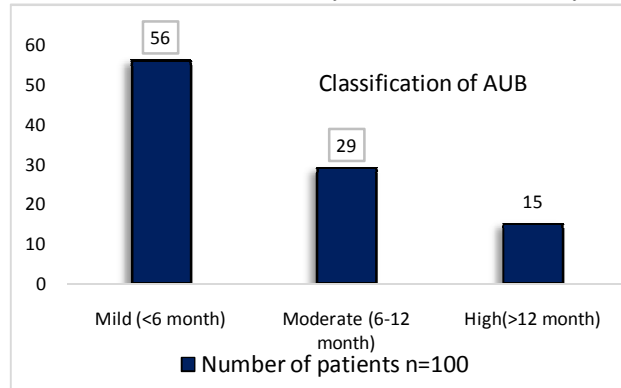


Figure 3: Duration of abnormal uterine bleeding and thick endometrium as shown in table 2. Histopathological examination of endometrial biopsies and

Table 2: Different sonographic finding of AUB patients

Sonographic finding	Number of patients, N=100	Percentage
Fibroid	26	26
Adenomyoma	21	21
Endometrial polyp	08	08
Thick endometrium	14	14
Ovarian cyst	02	02
Normal scan	29	29

post hysterectomy in patients presenting with AUB represent a wide range of changes from normal endometrium in different hormonal cycles to malignancy. In this study, the

Table 3: Endometrial pattern in AUB (by D&C and hysterectomy)

Endometrial patterns	Percentage
Proliferative endometrium	43
Secretory endometrium	19
Disordered proliferative endometrium	11
Out of phase endometrium	07
Polyp	08
Chronic endometritis	03
Atrophic endometrium	01
Simple hyperplasia with atypia	01
Simple hyperplasia without atypia	03
Malignancy	01
Gestation related	0
Inadequate for opinion	03
Total	100

most common finding observed was proliferative phase followed by secretory phase. Endometrial malignancy was found in only 1 case of AUB (table 3).

All the cases were classified as per PALM-COEIN classification (table 4). Maximum incidence found was

Table 4: Distribution of causes of AUB based on PALM-COEIN classification

Causes	Number of patients N=100	Percentage
Polyp	8	8
Adenomyosis	21	21
Leiomyoma	30	30
Malignancy	1	1
Coagulopathy	0	0
Ovulatory disorder	20	20
Endometrial disorder	19	19
Iatrogenic	0	0
Not yet classified	1	1
Total	100	100

AUB-L, followed by AUB-A. In this case study among 100 study subjects treatment and intervention are as follows (table 5), 47% had total abdominal hysterectomy, hormonal

Table 5: Treatment for AUB

Treatment	Number of patients N=100	Percentage
Hysterectomy	47	47
Polypectomy	08	08
Cystectomy	0	0
Dilatation & Curettage	19	19
Fibroid excision (myomectomy)	05	05
Only drugs without surgery	21	21

treatment given to 21% of cases followed by therapeutic D&C done in 19%, and polypectomy done in 08%. It was studied that AUB contributed for a major bulk of gynaecological surgeries done in Silchar Medical College. It includes both major and minor procedures.

Discussion

In developing countries, the prevalence of AUB seems to affect around 5-15% of women in their reproductive period and women in older age groups are affected with higher percentage. AUB is one of the major cause of gynaecological morbidity, which can affect 1 out of every 5 women at some point of the reproductive period⁵, though the data for prevalence of AUB is very limited. 9-14% of women in reproductive age group have blood loss exceeding 80 ml⁶ and AUB is a primary indication for hysterectomy, which is the most common major gynaecological operation^{7,8}.

In this study, prevalence of AUB among the patients attending gynaecology OPD during the study period is 20.48%. Tabassum Kotagasti et al⁹ in their observational study, found prevalence of AUB as 18.23%. Incidence of

AUB is reported to be 9 to 14% in women between menarche and menopause¹⁰. The prevalence varies in each country. In India, prevalence of AUB is reported to be 17.9%¹¹. In this study, AUB was found to be more common in 41-45 years (46%) of age group followed by 46-50 years (26%) of age group and 1% in age group <25 years respectively.

Similar observations were made by Radha Nair et al¹² found age groups presenting with AUB in 40-45years (58%) followed by 46-49years (24%). Anupma Kumari et al¹³ studied and found AUB was most common with age group of 40-45years (65.55%), and 46-50 years (27.77%) respectively.

Kajal Sinha et al¹⁴ reported that with increasing age the incidence of menstrual disorders also increases and excessive bleeding was observed in the age of 40 years and above. A similar study was done by Yusuf et al and Muzaffar et al^{15,16} and found similar observations.

In this study, based on parity, AUB is found to be more with high parity >3 (38%), followed by parity of 3 (30%). Similar observation were made by Nargis N et al¹⁷ and found AUB more common in high parity >3 (39.96%) followed by parity of 3 (32.70%) respectively, whereas Sreeja PA et al¹⁸ found AUB with parity 2 (42.04%) followed by parity 3 (18.1%) respectively.

In this study, duration of bleeding in mild (<6 months) is found in 56% followed by moderate (6-12 months) in 29%, similar study done by Sreeja PA et al¹⁸ found duration of bleeding in mild 53.4% and moderate 28.4%.

In this study, heavy menstrual bleeding (menorrhagia), was found to be 68%, followed by inter menstrual bleeding (metrorrhagia) in 14% of cases. Similar studies by Radha Nair et al¹³ found heavy menstrual bleeding in 64% followed by intermenstrual bleeding in 18% of cases.

In this study, the most common cause of AUB found is leiomyoma (30%), followed by adenomyosis (21%) and ovulatory disorders (20%), endometrial disorder (19%), endometrial/cervical polyp (8%) and not yet classified in 1% of the cases. Incidence of fibroids increases with age. Women with fibroids have heavy bleeding as the surface area of endometrium is increased. Hyperestrogenemia causes endometrial hyperplasia, making it fragile with engorgement of vasculature present in the perimyoma tissue with releasing of many angiogenic factors like vascular endothelial growth factors (VEGF) and platelet derived growth factors, impairing local endometrial haemostasis^{4,19}. Various studies and journals show that multiparous women have higher

chances of adenomyosis. Pregnancies leading to formation of endometrium which extend to myometrium. Adenomyotic tissues have more estrogen receptors⁴. AUB-L was found to be in 30% of the cases and sonographic finding of leiomyoma in 26 of the cases. 4 cases were diagnosed as AUB-L, intra-operatively in addition to the histopathological reports.

In our study, endometrial pattern found mostly is proliferative endometrium (42%), followed by secretory (19%) and disordered proliferative endometrium (11%) respectively and malignancy in only 1%. Protibha Singh et al¹⁸ studied and reported similar observations, where they found mostly is proliferative endometrium (23.5%), followed by secretory (18.2%) and disordered proliferative endometrium (15.6%) respectively.

Diagnosis with endometrial studies at the earliest stage will help in the prevention and management of premalignant lesions. The incidence of endometrial hyperplasia in this study is less in comparison to other studies²⁰. This may be due to the reason that most of the patients in this part of the country belong to low socioeconomic background and with low instances of associated risk factors like diabetes, obesity and sedentary lifestyle. Other factors may be as many of these patients are diagnosed at an earlier stage in the disordered proliferative phase. In only one case, malignancy was diagnosed following endometrial curettage and histopathological examination and hysterectomy was done accordingly. This is lower as compared to other relevant studies^{21,22}. The difference might be due to low incidence of endometrial malignancy in Indian population as compared to western countries.

In this study, most common treatment/surgery in AUB patients done is hysterectomy (47%), followed by only drugs without surgery (21%) and dilatation and curettage (19%) and polypectomy (8%) respectively. Astha Saheta et al²⁴ in their study found hysterectomy done in 37%, followed by dilatation and curettage in 29%, drugs (hormonal treatment) in 18% and exploratory laparotomy in 16% of cases respectively. In developing countries like India, where most of the women do not return for follow up and are non-compliant with hormonal therapy, poor literacy rate, hysterectomy will be the best choice. Removal of uterus is usually psychologically much more acceptable provided the patient has been fully counselled.

Conclusion

In this study we conclude that prevalence and pattern of AUB varies according to the age, parity and reproductive

state of the patient. It can be concluded from the present study that AUB may also lead to undue disruption in daily activities of women, and it may lead to serious medical consequences or may exacerbate anaemia. Specific diagnosis leading to the cause of AUB and prompt management in early stages can reduce patient's morbidity. After proper classification of AUB by PALM-COEIN, patients can be treated medically or surgically according to the cause leading to better cure and success rate.

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