

Study of Abnormal Uterine Bleeding in Perimenopausal Females**Pushpa A. Yadava¹, Kush M. Mehta², Rupa C. Vyas³, Shashwat K. Jani⁴, Forum A. Desai², Dhruvi R. Patel², Dhvani R. Rawal², Naisargee G. Rawal⁵**¹Professor, Department of Obstetrics and Gynaecology, SMT NHL MMC (SVPIMSR), Ahmedabad, Gujarat, India²Third Year Resident, Department of Obstetrics and Gynaecology, SMT NHL MMC (SVPIMSR), Ahmedabad, Gujarat, India³Associate Professor, Department of Obstetrics and Gynaecology, SMT NHL MMC (SVPIMSR), Ahmedabad, Gujarat, India⁴Assistant Professor, Department of Obstetrics and Gynaecology, SMT NHL MMC (SVPIMSR), Ahmedabad, Gujarat, India⁵Second Year Resident, Department of Obstetrics and Gynaecology, SMT NHL MMC (SVPIMSR), Ahmedabad, Gujarat, India

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Abstract:**Background:** Abnormal uterine bleeding (AUB) is a significant clinical entity. AUB and its subgroup, heavy menstrual bleeding (HMB), are common conditions affecting 14–25% of women of reproductive age. Abnormal uterine bleeding is a symptom. Abnormal uterine bleeding (AUB) is defined as any variation from the normal menstrual cycle and includes changes in regularity and frequency of menses, in the duration of flow, or in the amount of blood loss. AUB is reported to occur in 9 to 14% of women between menarche and menopause.**Aims and Objectives:**

1. To study the etiology of AUB and the various abnormal patterns of bleeding presented in peri-menopausal women.
2. To evaluate various diagnostic modalities for the diagnosis of abnormal uterine bleeding.
3. To assess medical and surgical management in cases of abnormal uterine bleeding.

Methods: Our institute drains patients from urban, semi-urban as well as rural areas. This is a retrospective study of 76 women diagnosed as Abnormal Uterine Bleeding carried out in the Department of Obstetrics and Gynecology, at Tertiary Care Hospital in Ahmedabad, Western India between September 2022 to March 2023. After due permission from the authority, computerized records of all the women who were admitted for the management of Abnormal Uterine Bleeding were studied in detail. History, clinical features, vital data, and general, abdominal, and per vaginal findings of the women were noted. Past history of any pelvic pathology, pelvic surgery, or treatment taken for infertility was also taken into account. Analysis was done regarding their diagnosis and management.**Results:** The number of the patients which were maximum (45) were seen in the age group of 40-45 which is peri-menopausal age. Patients of parity 4 and above were maximum 47.8%.The majority of patients (76.4%) presented with heavy menstrual bleeding as their abnormal pattern of bleeding. Maximum patients in this study were diagnosed as having leiomyoma, adenomyosis and endometrial hyperplasia in which the most common symptom was heavy menstrual bleeding.45.2% of women in our study were anemic, out of which 3.9% had severe anemia. In all patients, ultrasonography was done primarily. It gave primary diagnosis for 67 patients. Other diagnostic modalities were done in patients who needed further evaluation. It appeared in this study that the maximum number of patients attended the hospital for treatment after suffering for 3–6 months (53.4%). 57.2% of the women had a proliferative endometrium which means AUB in peri-menopausal women is predominantly an ovulatory. In 11 cases, of the total, endometrial hyperplasia was seen indicating unopposed estrogen action seen in anovulatory AUB.**Conclusion:** Occurrence of AUB is more common after 40 years of age and in multiparous women. Heavy menstrual bleeding is the most common complaint among these patients.

Diagnosis, symptomatic management and treatment of underlying cause associated with AUB in perimenopausal women are the way of approaches in time of availability of various medical and surgical treatment options.

Keywords: Abnormal Uterine Bleeding, Menorrhagia, Intermenstrual bleeding, Leiomyoma, Adenomyosis, Management in tertiary care hospital.

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Introduction

Abnormal uterine bleeding (AUB) is a significant clinical entity. AUB and its subgroup, heavy menstrual bleeding (HMB), are common conditions affecting 14–25% of women of reproductive age (1). Abnormal uterine bleeding is a symptom. Abnormal uterine bleeding (AUB) is defined as any variation from the normal menstrual cycle and includes changes in regularity and frequency of menses, in the duration of flow, or in the amount of blood loss [2]. AUB is reported to occur in 9 to 14% of women between menarche and menopause [3]. AUB may occur at any age and it has a variety of presentation. AUB can significantly affect the quality of life of the patients. Upto 33% of females seek medical assistance for this problem during their reproductive or perimenopausal age. Concerning volume, however, both the Royal College of Obstetricians and Gynaecologists (RCOG) and American College of Obstetricians and Gynaecologists (ACOG) prefer the patient-centered definition of HMB, as an indication for investigation and treatment options. Now, objective measurements of volume are usually the standard and a pictorial blood-loss assessment chart (PBAC) scores are not recommended in routine clinical practice.

AUB terminology may include heavy menstrual bleeding and intermenstrual bleeding. Heavy menstrual bleeding is defined as excessive menstrual blood loss which interferes with the women's physical, social, emotional, and mental quality of life irrespective of regularity, frequency, and duration of the menstrual cycle [4].

AUB can be categorized based on the amount of menstruation, regularity, frequency, and duration related to reproductive status. AUB is also divided into acute and chronic. An episode of bleeding in a non-pregnant woman that is of quantity enough to require intervention which is immediate to prevent further blood loss can be defined as Acute AUB.

Chronic AUB is defined as bleeding that is abnormal in duration, volume, and/or frequency and has been present for more than the last 6 months. The differential diagnosis can be an anatomic, hormonal, and metaplastic imbalance. Likelihood of uterine leiomyoma, endometrial polyps, adenomyosis, iatrogenic causes, endometrial hyperplasia, or carcinoma should be considered and a complete evaluation of these causes should be carried out.

A more strategic and systemic approach is required for the diagnosis of AUB. Therefore, the PALM-COEIN classification developed by the International Federation of Gynecology and Obstetrics (FIGO) should be used to practice evidence-based care [5].

It is a major psychological setback for the perimenopausal age group women as it disturbs her normal routine [6], so the aim of this study is to select suitable available modalities of medical or surgical methods. In current practice management had drastically changed from extreme conservation to minimally invasive surgeries. However, the definitive treatment still remains hysterectomy.

So the current study is done to evaluate perimenopausal women with AUB and its available management options with the aim to give evidence-based treatment.

Methods:

Our institute drains patients from urban, semi-urban as well as nearby rural areas. This is a retrospective study of 76 women diagnosed as Abnormal Uterine Bleeding carried out in the Department of Obstetrics and Gynecology, at Tertiary Care Hospital in Ahmedabad, Western India between September 2022 to March 2023.

After due permission from the authority, computerized records of all the women who were admitted for the management of Abnormal Uterine Bleeding were studied in detail. History, clinical features, vital data and general, abdominal and per vaginal findings of the women were noted. Past history of any pelvic pathology, pelvic surgery or treatment taken for infertility is also taken into account. Analysis was done regarding their diagnosis and management.

Inclusion Criteria:

Patients with Abnormal Uterine Bleeding aged 41 to 49 years.

Exclusion Criteria:

- Patients having pregnancy with bleeding Per Vaginum.
- Patients with postmenopausal bleeding.

Statistical analysis--Results obtained have been analyzed statistically using appropriate software.

Results:

Table 1: Age Distribution in AUB

Age-wise Distribution(In Years)	No. and (%) of cases N=76	RENETA NICOLAE et al 2015[7] N=103
40-45	45(59.3%)	67.97%
46-50	28(37.2%)	23%
>50	3(3.5%)	10%

The number of the patients which were maximum (45) were seen in the age group of 40-45 which is perimenopausal age. In India, the average age of menopause is 47.5 years. 28 patients were in the group of 46-50 years and 3 in >50 years age group. Increased incidence of AUB in this age group is due to the fact that these women are in their climacteric period approaching menopause, when cycles become intermittently anovulatory due to a decline in the number of ovarian follicles and estradiol level [8]

Table 2: Parity Wise Distribution

Parity	No. and (%) of cases (N=76)	Bharat et v al 2016 [9] N=103
0(NULLIPAROUS)	2(2.6%)	3(2.91%)
1	6(7.8%)	10(9.70%)
2	12(15.6%)	19(18.44%)
3	20(26.2%)	27(26.21%)
>=4	36(47.8%)	44(42.71%)

Patients of parity 4 and above were maximum 47.8%. A similar association was also found in Bharat et al 2016. Higher the parity and greater the age which leads to decreased ovarian function and AUB.

Table 3: Patterns of Bleeding

Pattern Of Bleeding	No. of Cases N=76	Percentage (%)
Heavy Menstrual Bleeding	58	76.4%
Intermenstrual Bleeding	18	24.6%

Depending on the pattern of the bleeding, AUB is further classified by FIGO as:

- Abnormal uterine bleeding with heavy menstrual bleeding(AUB/HMB)
- Abnormal uterine bleeding with bleeding between periods (AUB/IMB)

Majority of patients (76.4%) presented with heavy menstrual bleeding as their abnormal pattern of bleeding. Maximum patients in this study were diagnosed as having leiomyoma, adenomyosis, and endometrial hyperplasia in which the most common symptom was heavy menstrual bleeding.

Table 4: Anemia

	No. and (%) of Cases	Kristen A et al 2012(%)
Mild Anemia	25(33.5%)	34.2%
Moderate And Severe Anemia	9(11.7%)	7.2%

Majority of patients presented with complaints of heavy menstrual bleeding for at least 3-6 months, so due to increased blood loss most patients had some degree of anemia.

According to WHO classification of anemia, grading of which was done as (Non-pregnant women):- No Anemia: ≥ 12 gm/dl, Mild Anemia: 11-11.9 gm/dl, Moderate Anemia: 8-10.9 gm/dl,

Severe Anemia: < 8 gm/dl. 45.2% of women in our study were anemic, out of which 3.9% had severe anemia for which blood transfusion was done. Moderate anemia was treated by parenteral iron therapy or oral iron tablets.

Oral iron was prescribed to mildly anemic patients. Kristen A et al 2012[10] showed similar results, especially in cases of mild anemia.

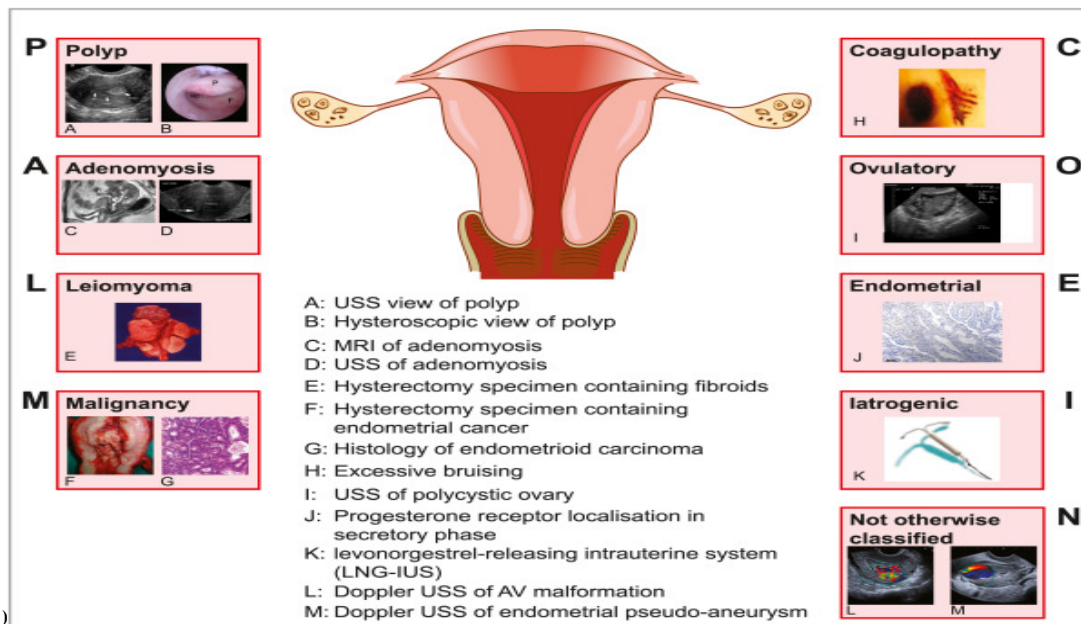


Figure 1 A: Abnormal Uterine Bleeding [1]

Table 1

PALM-COEIN Classification System for AUB

Cause	Abbreviation	Description
Structural (PALM)		
Polyps	AUB-P	Endometrial or endocervical proliferation of tissue that is vascular, glandular, fibromuscular, or connective in nature. Prevalence: up to 12% of women
Adenomyosis	AUB-A	Based on depth of endometrial tissue at interface of endometrium and myometrium and measured post hysterectomy. Reported prevalence: 5%-70%
Leiomyoma	AUB-L	Benign fibromuscular myometrial tumor (i.e., fibroid). Further classified as <i>Submucosal</i> or <i>Other</i> . Reported prevalence: 70%
Malignancy	AUB-M	Atypical hyperplasia, malignancy, premalignant hyperplastic process. Further classified via WHO or FIGO system. Reported prevalence depends on the type of premalignancy or malignancy; however, up to 3.5% of premalignant polyps in reproductive-age women and 15% of endometrial cancer cases occur prior to menopause. Current prevalence may not be known, owing to new WHO classifications
Nonstructural (COEIN)		
Coagulopathy	AUB-C	Coagulation-factor deficiencies, von Willebrand disease, hemophilia, platelet-function disorders. Reported prevalence: 13%
Ovulatory disorders	AUB-O	Endocrinopathies: PCOS, hypothyroidism, hyperprolactinemia, stress, obesity, anorexia, weight loss, extreme exercise. Iatrogenic: See criteria for AUB-I. Overall frequency undefined; dependent on type of disorder
Endometrial	AUB-E	Dysfunction of mechanisms that affect endometrial hemostasis. Endometrial inflammation and/or infection. Overall frequency undefined
Iatrogenic	AUB-I	Medication-related: oral and injectable anticoagulants, intrauterine systems, gonadal steroid therapy (estrogen, progestin, androgen), medication affecting dopamine metabolism (phenothiazines, tricyclic antidepressants), herbals (ginseng, ginkgo), decreased medication adherence. Overall frequency undefined
Not yet classified	AUB-N	Chronic endometritis, arteriovenous malformations, myometrial hypertrophy, any future entities not yet identified or defined. Overall frequency undefined

AUB: abnormal uterine bleeding; FIGO: International Federation of Gynecology and Obstetrics; PCOS: polycystic ovarian syndrome; WHO: World Health Organization.
 Source: References 1, 7-10.

Figure 1 B: Pathophysiology [11]

Table 5: Diagnostic Modalities in AUB**Table 5(A): Ultrasonography Findings**

Findings	No. of Cases N=76	Percentage (%)
Polyp	5	6.8%
Adenomyosis	22	29.2%
Ovulatory dysfunction	7	10.3%
Normal	4	4.8%
Endometrial Hyperplasia	8	10.7%
Leiomyoma	30	38.2%

In all patients, ultrasonography was done primarily. It gave primary diagnosis for 67 patients. Other diagnostic modalities were done in patients who needed further evaluation.

Table 5(b): Other Diagnostic Modalities

Modality	No. of Cases	Percentage (%)
Hysteroscopy	6	7.8%
MRI	3	3.9%

Ultrasonography was used as the primary imaging modality for all patients. Patients with inconclusive findings on ultrasonography, suggesting small submucous leiomyoma or polyp were advised hysteroscopy, which served as a therapeutic tool as well. Patients with large leiomyoma or advanced changes of adenomyosis were advised MRI, to decide whether to directly opt for hysterectomy or not.

Table 6: Duration of Symptoms of Patients Presenting With AUB

Duration	No. of Patients N=76	Percentage (%)
<6 months	40	53.4%
6-12 months	14	18.2%
> 12 months	22	28.4%

In this study, it is observed that the maximum number of patients attended the hospital for getting checked after suffering for 3–6 months (53.4%) which was comparable to the study of Kathuria and Bhatnagar (50%) [12].

Table 7: Histopathology of D&C / EB Material

Endometrial Pattern	No. of Cases N=76	Percentage (%)
Proliferative	43	57.2%
Secretory	17	23.0%
Hyperplasia	11	13.9%
Atrophic	5	5.9%

43 women in total have undergone D&C among them 17 women has undergone therapeutic D&C and 33 have undergone Endometrial Biopsy.

Endometrial biopsy was taken between the 15- 20th day of the menstrual cycle.

Various endometrial patterns were observed: 57.2% of the women had a proliferative endometrium which means AUB in peri-menopausal women is predominantly anovulatory. In 11 cases, of the total, endometrial hyperplasia was seen indicating unopposed estrogen action seen in anovulatory AUB. This is due to the fact that these women are in their peri- menopausal period, when cycles become intermittently anovulatory due to decline in the number of ovarian follicles and estradiol level [8].

Discussion

This retrospective study was performed from September 2022 to March 2023 in a tertiary health care center in 76 patients with Abnormal Uterine Bleeding.

The number of the patients which were maximum (45) were seen in the age group of 40-45 which is peri-menopausal age.

Patients of parity 4 and above were maximum 47.8%. The majority of patients (76.4%) presented with heavy menstrual bleeding as their abnormal pattern of bleeding. Maximum patients in this study were diagnosed as having leiomyoma, adenomyosis and endometrial hyperplasia in which the most common symptom was heavy menstrual bleeding.

45.2% of women in our study were having anemia, in which 3.9% had severe anemia.

In all patients, ultrasonography was done primarily. It gave primary diagnosis for 67 patients. Other diagnostic modalities were done in patients who needed further evaluation.

It appeared in this study that the maximum number of patients attended the hospital for treatment after suffering for 3–6 months (53.4%)

57.2% of the women had a proliferative

endometrium which means AUB in perimenopausal women is predominantly anovulatory. In 11 cases, of the total, endometrial hyperplasia was seen indicating unopposed estrogen action seen in anovulatory AUB. This is due to the fact that these women are in their peri-menopausal period, when there are intermittently anovulatory cycles due to decrease in estradiol levels and the number of ovarian follicles [8].

Conclusion

The occurrence of AUB is more common in women who are multiparous and are more than 40 years of age. The most common complaint among these patients is heavy menstrual bleeding.

Diagnosis, symptomatic management and treatment of underlying causes associated with AUB in perimenopausal women are the way of approaches at the time of availability of various medical and surgical treatment options.

Transvaginal ultrasonography is a better diagnostic procedure to use to exclude endometrial and intrauterine abnormalities. It can be used as a routine first line investigation in patients with abnormal uterine bleeding. The status of endometrium, endometrial hyperplasia, endometrial polyps and uterine fibroids can be examined by ultrasonography. Further investigations are required if we get an inconclusive or abnormal ultrasound report.

Medical therapy is an effective treatment option in case of perimenopausal AUB. Progesterone as a hormonal therapy can be given during the luteal phase of the cycle. Due to lack of compliance, adding an adjuvant medical therapy or needing to switch to another medical therapy; such medical treatments are less successful. Despite this, medical treatment is the first choice of many gynaecologists and general practitioners.

A newer hormonal treatment option for AUB is MIRENA. It is used in very limited numbers of patients in our setup due to it being very expensive.

The definitive surgical treatment is Hysterectomy as it removes the underlying diseased organ. Hysterectomy can have complications because it is a major surgical procedure. It is a better approach to recommend the use of medical management, minimally invasive procedures, and natural treatment when possible. Hysterectomy is still a valid alternative option for women who are from low socio-economic groups and are illiterate.

The involvement of patients in the decision-making

process can enhance the success rate of treatment. The choice of treatment depends on several factors.

Current medical treatment is used on a rational basis but thinking of physical, socio-economic and mental factors, hysterectomy is still the treatment of choice for many patients.

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