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Original Research Article

Clinical Profile and Treatment of AUB in Perimenopausal Women: A Retrospective Study

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Abstract:

Background: Abnormal uterine bleeding (AUB) is frequently encountered in women approaching menopause and can significantly affect daily activities and overall well-being. It may arise due to a variety of structural and functional abnormalities of the uterus.

Objective: To analyze the clinical characteristics and treatment approaches of AUB among perimenopausal women.

Methods: A retrospective observational study was carried out at Sri Krishna Medical College and Hospital, Muzaffarpur, Bihar, over a duration of ten months. Medical records of 120 women aged 40–50 years presenting with AUB were reviewed. Information regarding demographic details, clinical features, causes, and management strategies was collected and analyzed using SPSS version 25. The Chi-square test was used to assess associations, and a p-value <0.05 was considered statistically significant.

Results: Most patients belonged to the 46–50 years age group (53.3%). Heavy menstrual bleeding (55.0%) was the most frequently reported symptom. Leiomyoma (33.3%) and adenomyosis (21.7%) were the leading causes. Medical therapy was utilized in 58.3% of cases, while 41.7% underwent surgical procedures. A significant association was observed between age group and type of etiology ($p = 0.02$).

Conclusion: Structural abnormalities are a major cause of AUB in perimenopausal women. Early detection and individualized management strategies are essential to achieve better clinical outcomes.

Keywords: Abnormal uterine bleeding, perimenopause, leiomyoma, adenomyosis, retrospective study.

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Introduction

Abnormal uterine bleeding refers to irregularities in menstrual function, which may include changes in cycle frequency, duration, or volume of blood loss [1]. It is a common clinical problem among women in the perimenopausal age group, largely due to hormonal variations and uterine structural changes [2].

During the perimenopausal transition, fluctuating hormone levels and inconsistent ovulation often result in unpredictable bleeding patterns [3]. This condition contributes significantly to gynecological consultations and hospital admissions [4].

AUB remains an important contributor to morbidity worldwide, affecting physical health, psychological well-being, and social functioning [5]. In developing regions such as India, delayed medical attention and limited awareness may further worsen outcomes [6].

The PALM-COEIN classification system provides a standardized framework to categorize AUB into structural and non-structural causes [7]. Structural conditions such as leiomyoma and adenomyosis are frequently encountered in this age group [8].

Heavy menstrual bleeding is the most common symptom and may lead to anemia and reduced quality of life [9]. Hormonal imbalance, particularly prolonged estrogen exposure, plays a significant role in its pathophysiology [10].

Evaluation of AUB generally involves imaging modalities such as ultrasonography along with endometrial assessment to determine the underlying cause [11]. Treatment options range from pharmacological therapy to surgical intervention based on severity and diagnosis [12].

There is limited hospital-based data available from Eastern India, especially Bihar. Hence, the present study was undertaken to evaluate the clinical profile and treatment patterns of AUB in perimenopausal women [13].

Materials and Methods

Study Design and Setting: This study followed a retrospective observational design and was conducted in the Department of Obstetrics and Gynaecology at Sri Krishna Medical College and Hospital, Muzaffarpur, Bihar. The hospital serves as a tertiary care center catering to both urban and rural populations.

Study Duration: Data were collected over a period of ten months from previously documented patient records.

Study Population: The study included perimenopausal women aged 40–50 years who presented with abnormal uterine bleeding and received care either in outpatient or inpatient settings.

Sample Size: A total of 120 patients meeting the inclusion criteria were included. The sample size was based on the availability of complete and reliable medical records.

Eligibility Criteria

Inclusion Criteria:

- Women aged 40–50 years
- Diagnosed cases of AUB
- Availability of complete records

Exclusion Criteria:

- Pregnancy-related bleeding
- Diagnosed gynecological malignancies
- Incomplete records

Data Collection: Relevant information was extracted from hospital records, including outpatient and inpatient files, using a structured data collection format to ensure consistency and accuracy.

Variables Assessed

1. **Demographic Data**
    - Age grouped as 40–45 years and 46–50 years
2. **Clinical Features**
    - Heavy menstrual bleeding
    - Irregular bleeding
    - Intermenstrual bleeding
    - Postmenopausal bleeding
3. **Etiology**
    - Leiomyoma
    - Adenomyosis
    - Dysfunctional uterine bleeding
    - Endometrial hyperplasia
    - Others
4. **Treatment**
    - Medical management
    - Surgical intervention
5. **Analytical Grouping**
    - Structural causes
    - Non-structural causes

Outcome Measures: The primary outcome was the clinical and etiological profile of AUB along with treatment patterns. The secondary outcome included the association between age and etiology.

Statistical Analysis: All collected data were compiled and organized digitally before analysis. Statistical evaluation was carried out using SPSS software (version 25). Qualitative variables were expressed as numbers and percentages. The association between categorical variables was examined using the Chi-square test. A p-value less than 0.05 was considered indicative of statistical significance.

Ethical Considerations: Institutional approval was obtained prior to the study. Patient confidentiality was maintained by anonymizing all records. As this was a retrospective study, informed consent was not required.

Results

A total of 120 perimenopausal women presenting with abnormal uterine bleeding (AUB) were included in the study. The findings are given below.

1. Age Distribution

Most participants belonged to the 46–50 years age group (53.3%), while 46.7% were aged 40–45 years. The detailed distribution is presented in Table 1.

Table 1: Age Distribution of Study Participants (n = 120)

Age Group (years)	Frequency	Percentage (%)
40–45	56	46.7
46–50	64	53.3

2. Clinical Presentation

Heavy menstrual bleeding was the most commonly reported symptom (55.0%), followed by irregular

bleeding (26.7%), intermenstrual bleeding (11.7%), and postmenopausal bleeding (6.6%). These findings are summarized in Table 2 and illustrated in Figure 1.

Table 2: Clinical Profile of Patients

Clinical Feature	Frequency	Percentage (%)
Heavy menstrual bleeding	66	55.0
Irregular bleeding	32	26.7
Intermenstrual bleeding	14	11.7
Postmenopausal bleeding	8	6.6

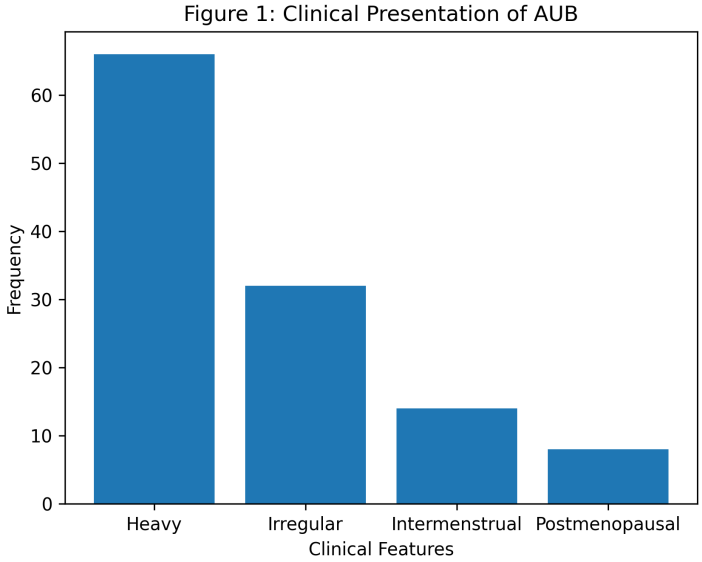

Figure 1: Clinical Presentation of AUB

3. Etiological Distribution of AUB

Leiomyoma was identified as the most common cause (33.3%), followed by adenomyosis (21.7%), dysfunctional uterine bleeding (18.3%), endometrial hyperplasia (15.0%), and other causes (11.7%). The distribution is shown in Table 3 and Figure 2.

Table 3: Etiological Distribution of AUB (n = 120)

Etiology	Frequency	Percentage (%)
Leiomyoma	40	33.3
Adenomyosis	26	21.7
Dysfunctional bleeding	22	18.3
Endometrial hyperplasia	18	15.0
Others	14	11.7

Figure 2: Etiological Distribution of AUB

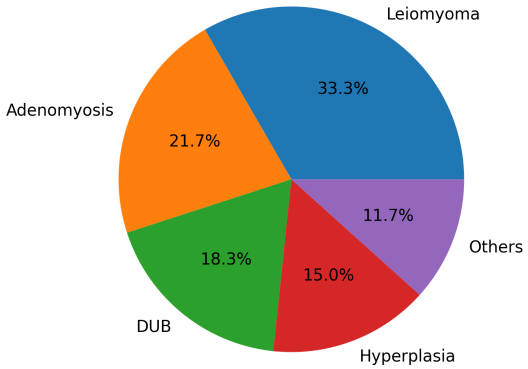

Figure 2: Etiological Distribution of AUB

4. Treatment Modalities

Medical management was the preferred treatment in 58.3% of patients, whereas 41.7% underwent surgical procedures. These findings are detailed in Table 4 and illustrated in Figure 3.

Table 4: Treatment Pattern in Study Population

Treatment Type	Frequency	Percentage (%)
Medical	70	58.3
Surgical	50	41.7

Figure 3: Treatment Modalities in AUB

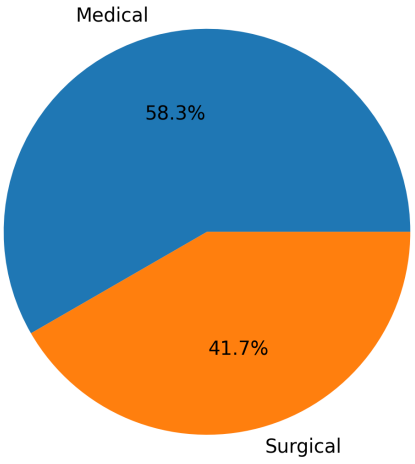

Figure 3: Treatment Modalities in AUB

5. Association Between Age and Etiology

A statistically significant association was observed between age group and type of etiology ($\chi^2 = 5.12$, p = 0.02), with structural causes being more common in older women. Details are presented in **Table 5**.

Table 5: Association Between Age and Etiology of AUB

Age Group (years)	Structural Causes	Non-Structural Causes
40–45	30	26
46–50	48	16

6. Summary of Key Findings

- Majority of patients were aged **46–50 years (53.3%)**
- Most common symptom: **Heavy menstrual bleeding (55.0%)**
- Leading cause: **Leiomyoma (33.3%)**
- Medical management was more frequently used (**58.3%**)
- Significant association between age and etiology (**p = 0.02**)

Discussion

The findings of the present study indicate that abnormal uterine bleeding is a common clinical problem among perimenopausal women, with heavy menstrual bleeding being the predominant symptom. This observation is consistent with previously published studies [14,15].

Leiomyoma emerged as the leading cause, followed by adenomyosis, highlighting the importance of structural abnormalities during this transitional phase of life. Similar trends have been reported in other Indian studies [16,17].

The higher prevalence of structural causes in women aged 46–50 years suggests a progression of underlying pathology with advancing age. The statistically significant association observed in this study supports this relationship [18,19].

Medical management was preferred in the majority of cases, particularly in early stages, while surgical intervention was reserved for patients with persistent or severe symptoms. This aligns with current clinical recommendations [20,21].

In addition, factors such as delayed presentation, lack of awareness, and limited access to healthcare may influence disease severity at the time of diagnosis. Early evaluation and timely intervention are therefore essential [22,23].

The findings of this study emphasize the need for early clinical evaluation in women presenting with abnormal uterine bleeding during the perimenopausal period. Differences in healthcare access, awareness levels, and socioeconomic factors may also influence disease presentation and treatment choices. Addressing these factors can contribute to improved patient outcomes.

Conclusion

AUB in perimenopausal women is predominantly associated with structural causes such as leiomyoma. Heavy menstrual bleeding is the most common presentation. Early evaluation and individualized management strategies are essential to improve patient outcomes.

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