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RESEARCH ARTICLE

Clinical Profile and Treatment Outcomes of Abnormal Uterine Bleeding in Perimenopausal Women: An Observational Study

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ABSTRACT

Background: Abnormal uterine bleeding (AUB) is a common gynecological concern in perimenopausal women, significantly affecting quality of life. The etiological spectrum ranges from benign structural causes to malignancies, necessitating systematic evaluation and tailored management.

Objective: To assess the clinical profile, etiological patterns, and treatment outcomes of abnormal uterine bleeding in perimenopausal women.

Methods: This observational study was conducted at the Department of Obstetrics and Gynaecology, Jawaharlal Nehru Medical College, Bhagalpur, from February 2025 to January 2026. A total of 140 perimenopausal women presenting with AUB were included. Clinical data, laboratory findings, imaging, histopathology, and treatment outcomes were analyzed.

Results: The most common age group was 45–49 years (42.1%). Heavy menstrual bleeding (HMB) was the most frequent presentation (48.6%). Structural causes (PALM group) accounted for 61.4% of cases, with leiomyoma being predominant (32.1%). Medical management was effective in 58.6% of cases, while 41.4% required surgical intervention. Significant improvement in symptoms was observed in 87.1% of patients ($p < 0.05$).

Conclusion: AUB in perimenopausal women is predominantly due to benign structural causes. Early diagnosis and appropriate management lead to favorable outcomes, with individualized treatment being essential.

Keywords: Abnormal uterine bleeding, Perimenopause, Leiomyoma, PALM-COEIN, Treatment outcomes

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Introduction

Abnormal uterine bleeding (AUB) is defined as any variation in the normal menstrual cycle, including alterations in frequency, duration, and volume of bleeding [1]. It is particularly prevalent among perimenopausal women due to hormonal fluctuations and structural abnormalities [2].

The International Federation of Gynecology and Obstetrics (FIGO) introduced the PALM-COEIN classification system to standardize the causes of AUB into structural (Polyp, Adenomyosis, Leiomyoma, Malignancy) and non-structural categories (Coagulopathy, Ovulatory dysfunction, Endometrial, Iatrogenic, Not yet classified) [3].

Perimenopause represents a transitional phase characterized by declining ovarian function and irregular ovulation, leading to hormonal imbalance and unpredictable bleeding patterns [4]. The prevalence of AUB in this age group ranges between 30–50% [5].

Common etiologies include leiomyomas, adenomyosis, endometrial hyperplasia, and malignancy [6]. Early evaluation is critical to exclude endometrial carcinoma, particularly in women above 40 years [7].

Diagnostic approaches include clinical evaluation, ultrasonography, and endometrial sampling [8]. Management strategies range from pharmacological therapy (NSAIDs, hormonal therapy) to surgical interventions such as hysterectomy [9].

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Despite advancements, AUB remains a significant contributor to morbidity due to anemia and reduced quality of life [10]. This study aims to evaluate the clinical profile and treatment outcomes in perimenopausal women with AUB.

Materials And Methods

Study Design: Observational study
Study Setting: Department of Obstetrics and Gynaecology, Jawaharlal Nehru Medical College, Bhagalpur
Study Duration: February 2025 – January 2026
Sample Size: 140 patients

Inclusion Criteria

- Women aged 40–55 years
- Presenting with abnormal uterine bleeding
- Provided informed consent

Exclusion Criteria

- Pregnancy-related bleeding
- Known bleeding disorders
- Hormone therapy within last 3 months

Data Collection

- Detailed history and clinical examination
- Hemoglobin estimation
- Pelvic ultrasound
- Endometrial biopsy where indicated

Statistical Analysis

Data were analyzed using SPSS version 25. Continuous variables were expressed as mean ± SD, and categorical variables as percentages. The Chi-square test was used for categorical comparisons, and $p < 0.05$ was considered statistically significant.

Results

A total of 140 perimenopausal women with abnormal uterine bleeding (AUB) were analyzed.

Age Distribution

Participants were aged 40–55 years (mean 47.3 ± 4.2 years). The majority were in the 45–49 years group (42.1%), followed by 50–55 years (30.7%) and 40–44 years (27.1%) (Table 1, Figure 1).

Clinical Presentation

Heavy menstrual bleeding was the most common symptom (48.6%), followed by irregular (24.3%), postmenopausal (14.3%), and intermenstrual bleeding (12.9%) (Table 2, Figure 2).

Table 1: Age Distribution of Study Participants (n = 140)

Age Group (years)	*Number (n)*	*Percentage (%)*
40–44	38	27.1
45–49	59	42.1
50–55	43	30.7

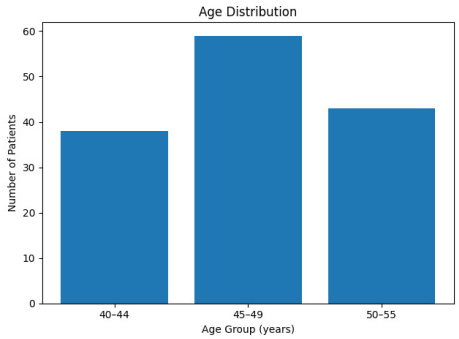

Figure 1: Age distribution of study participants

Table 2: Clinical Presentation of AUB (n = 140)

Clinical feature	*Number (n)*	*Percentage (%)*
Heavy menstrual bleeding	68	48.6
Irregular bleeding	34	24.3
Intermenstrual bleeding	18	12.9
Postmenopausal bleeding	20	14.3

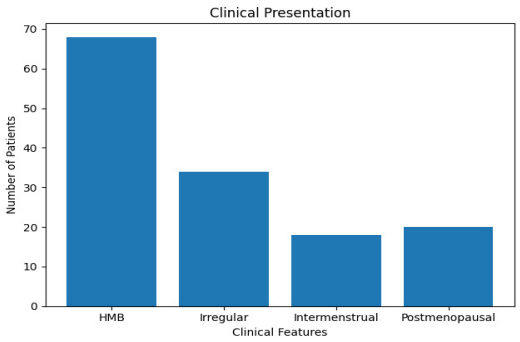

Figure 2: Pattern of clinical presentation

Table 3: Etiological Distribution of AUB (n = 140)

Etiology	*Number (n)*	*Percentage (%)*
Leiomyoma	45	32.1
Adenomyosis	21	15.0
Endometrial polyp	10	7.1
Malignancy	10	7.1
Ovulatory dysfunction	28	20.0
Endometrial causes	26	18.6

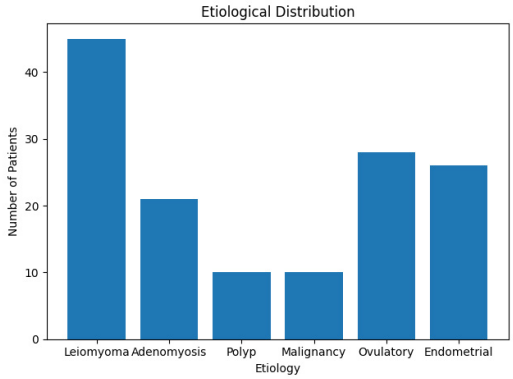

Figure 3: Etiological distribution of AUB

Table 4: Treatment Modalities (n = 140)

Treatment type	*Number (n)*	*Percentage (%)*
Medical	82	58.6
Surgical	58	41.4

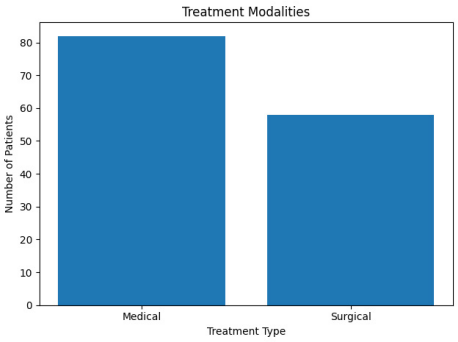

Figure 4: Treatment modalities

Table 5: Treatment Outcomes (n = 140)

Outcome	*Number (n)*	*Percentage (%)*
Symptom improvement	122	87.1
No improvement	18	12.9

Etiological Distribution (PALM-COEIN)

Structural causes comprised 61.4%, with leiomyoma (32.1%) as the leading cause. Ovulatory dysfunction (20.0%) was the main non-structural factor (Table 3, Figure 3).

Treatment Modalities

Medical treatment was given to 58.6%, while 41.4% underwent surgery (Table 4, Figure 4).

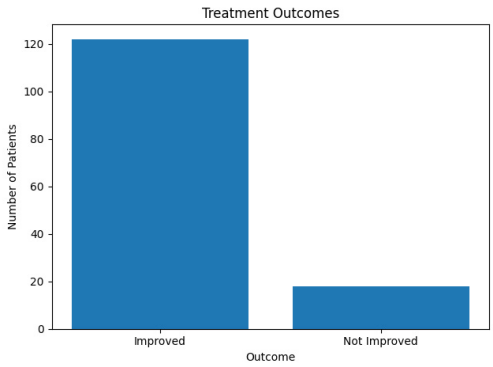

Figure 5: Treatment outcomes

Treatment Outcomes

Clinical improvement was observed in 87.1% of patients (Table 5, Figure 5).

Association Between Treatment and Outcome

Treatment type showed a significant association with outcome (Chi-square = 6.45, p = 0.011), with better results seen in surgically managed cases (Figure 5).

Discussion

AUB remains a major gynecological issue in perimenopausal women due to hormonal and structural changes [11]. In the present study, the highest incidence was observed in the 45–49 years age group, consistent with previous findings [12].

Heavy menstrual bleeding was the most common symptom, aligning with studies by Fraser et al. [13]. Structural causes predominated, particularly leiomyoma, which accounted for 32.1% of cases, similar to reports by Munro et al. [14].

Adenomyosis and endometrial causes were also significant contributors [15]. The presence of malignancy in 7.1% of cases highlights the importance of early evaluation [16].

Medical management was effective in more than half of the patients, particularly in non-structural causes [17]. However, surgical intervention was necessary in refractory cases and structural abnormalities [18].

The overall improvement rate of 87.1% demonstrates the effectiveness of individualized treatment approaches [19]. Similar outcomes have been reported in previous studies [20].

The study reinforces the utility of the PALM-COEIN classification in guiding diagnosis and management [21]. Early diagnosis and appropriate intervention significantly improve patient outcomes [22].

Conclusion

Abnormal uterine bleeding in perimenopausal women is predominantly due to benign structural causes, particularly leiomyoma. Comprehensive evaluation using the PALM-COEIN system aids in accurate diagnosis. Both medical and surgical treatments are effective, with high overall success rates. Early intervention is crucial to prevent complications and improve quality of life.

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