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Research Article

Uterine Bleeding

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Abnormal Uterine Bleeding- Its Causes and Management in Women with Reproductive Age

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Introduction: Abnormal uterine bleeding (AUB) is defined as bleeding from the uterine corpus that is abnormal in regularity, volume, frequency or duration and occurs in the absence of pregnancy. It makes the patient uncomfortable and hampers social, familial and religious life.

Methods: A cross-sectional observational study was carried out among 100 women of reproductive age admitted to the Obstetrics and Gynecology department of Comilla Medical College Hospital. The study duration was 6 months, from January 2022 to July 2022. Patients were properly explained about the study and informed consent was taken. Analysis of these women is done by recording age parity, menstrual symptoms and treatment options. All specimens were sent for histopathology. Etiology, clinical presentation, histopathological findings and USG reports were correlated. AUB was classified according to the PALM-COEIN classification.

Results: In this study, most of the patients revealed the common age group 31-40 years (50%) and most of them (64%) belonged to average economic conditions. 76% patient were multiparous. Heavy menstrual bleeding was a common presentation (48%).8% of patients were treated medically. Different operations were done among them total abdominal hysterectomy was done in 60% of cases, non-descent vaginal hysterectomy was done in 12% of cases, and diagnostic dilatation and curettage were done in 10% of cases. As per PALM-COEIN classification AUB (L) was a common type and most of the patients belong to the PALM group (84%)

Conclusions: A systematic approach to diagnosis, investigation and a step-wise approach to intervention is necessary. Treatment commencing with medical therapeutic modalities followed by surgical modalities is the ultimate goal of all therapeutic interventions.

Keywords: Abnormal Uterine Bleeding, Prevalence, Causes

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Introduction

Abnormal uterine bleeding may be defined as any variation from the normal menstrual cycle and includes changes in regularity and frequency of menses in duration or flow or amount of blood loss. [1] [2] Normal menstrual period 3-7 days, menstrual cycle 21 to 35 days, maximum blood loss 60-80ml. [3] Heavy menstrual bleeding is the most common complaint of AUB. It has been defined as "excessive menstrual blood loss which interferes with the woman's physical, social, emotional and material quality of life that can occur alone or in combination with other symptoms."[4] AUB is reported to occur in 9 to 14 percent of women between menarche and menopause. [5] The prevalence varies in each country. Abnormal uterine bleeding affects 10%-30% of reproductive-aged women and up to 50% of perimenopausal women. Patterns and causes of AUB differ in different age group and reproductive status of women. [6] Abnormal uterine bleeding increases significantly in adolescents, reproductive and perimenopausal women than peripubertal and postmenopausal groups. Perimenopausal bleeding is vaginal bleeding around menopause (40-50 years). It is the period 2-8 years preceding menopause and 1 year after the final menses (WHO). Determining the most likely etiology of AUB by obtaining a history, performing a physical examination and laboratory and imaging tests is essential for choosing the most appropriate and effective management for individual patients. The pathophysiology of AUB is largely unknown but occurs in both ovulatory and anovulatory menstrual cycles. The patterns of AUB include irregular menstrual bleeding (Irreg MB), absent menstrual bleeding (Amenorrhea), infrequent menstrual bleeding, frequent menstrual bleeding, heavy menstrual bleeding, and heavy and prolonged menstrual bleeding (HPMB).[7],[8] Fibroid uterus Adenomyosis is the most common cause of AUB in perimenopause. Menopause is defined as the permanent cessation of menses for 1year and is physiologically correlated with the decline in estrogen secretion resulting from the loss of follicular function. Menopause usually occurs between the ages of 45-52 years. [9] In postmenopausal women, common causes of AUB are atrophic endometrium (60-80%), vaginal atrophy, endometrial hyperplasia, endometrial cancer (10%), endometrial polyp or cervical polyp, hormone replacement therapy, And cervical cancer. However, 90% of women with endometrial cancer present with postmenopausal bleeding. [10] Although postmenopausal bleeding has a benign cause, the priority is to exclude malignancy. Endometrial tissue sampling should be performed in patients with AUB who are older than 45 years as a first-line test. Endometrial sampling also should be performed in patients younger than 45 years with a history of unopposed estrogen exposure, failed medical management and persistent AUB. [2] Women with AUB should be evaluated for anemia with an assay of haemoglobin and/or hematocrit (preferably full blood count, including platelets). In the absence of any other identifiable source suspected to be of uterine origin. Structural evaluation of the endometrial cavity is performed by TVS or USG to identify abnormalities including endometrial or endocervical polyps, and leiomyomas. [11],[12] For ovulatory disorders thyroid function tests, serum prolactin and androgen levels should be checked. [13]

The need for surgical treatment is based on the clinical stability, the severity of bleeding, and contraindications to medical management. Surgical options include dilation and curettage (D&C), endometrial ablation, uterine artery embolization and hysterectomy. Dilatation and curettage are diagnostic as well as therapeutic procedures. [14] Endometrial ablation should be considered only if other treatments have been ineffective or contraindicated and it should be performed only when a woman does not have plans for future childbearing. The possibility of endometrial and uterine cancer should be ruled out before endometrial ablation. [15] Hysterectomy is the definitive treatment for controlling heavy bleeding for patients who do not respond to medical therapy. Two thirds of patients with AUB undergo hysterectomy. [16]

Materials and Methods

Study Design: It was a cross-sectional observational study.

Study place: Department of Obs& Gynae, Cumilla Medical College Hospital (CuMCH), Cumilla, Bangladesh.

Study period: 6 Months (January 2022 to July 2022)

Sample size: Sample size was calculated by

The following statistical Formula n= $\frac{z^2 pq}{d^2}$

After fulfilling the inclusion and exclusion criteria and for the time constraint of the study period my expected sample size was not less than 100

Study population: This study was conducted among the patients admitted for management with abnormal uterine bleeding to the indoor section of the Department of Obstetrics & Gynecology, Cumilla Medical College Hospital, Cumilla, Bangladesh.

Selection criteria:

Inclusion criteria

1. Admitted patient of AUB.
2. Women of reproductive age

Exclusion criteria:

1. Pregnancy
2. Postmenopausal women

Study procedure: A patient who fulfils the inclusion criteria was enrolled on the study. Written informed consent was taken from all the patients. All the patients included in this study irrespective of any reproductive age, race, or profession, presented with abnormal uterine bleeding.

Data Processing Analysis and Interpretation: An informed consent was sought from the patient. Patient data was recorded on a pre-designed case record form (CRF). All the parameters were analyzed with appropriate statistical tests. P value was considered significant when it was <0.05. Statistical analysis was performed with the SPSS software package (SPSS for Windows version 20, SPSS Corporation) and data presented in tabulated forms and graphs

Results

Table 1 shows the majority of women were in the age group 31-35 years (27%) followed by 36-40 years (23%).60% of study patients completed primary education and 64% of patients belong to average socioeconomic status.

Table 2 shows that 44% of patients had irregular menstrual cycles, 48% of patients had heavy menstrual bleeding, intermenstrual bleeding was present in 38% of cases and 64% of patients had dysmenorrhea.

Table 1: Sociodemographic Status (n=100)

Age group	Number (n=100)	Percentage
<20 years	40	40%
21-25	12	12%
26-30	22	22%
31-35	27	27%
36-40	23	23%
41-45	8	8%
>46	4	4%
Educational Status		
Primary	60	60%
Secondary	32	32%
No Education	8	8%
Socioeconomic Status		
Average	64	64%
Poor	36	36%

Table 2: Menstrual Data (n=100)

Menstrual Data		Number of Pt. (n=100)	Percentage
Menstrual Period	3-7 days	76	76%
	<3 days	8	8%
	>7 days	10	10%
Menstrual Cycle	<15 days	4	4%
	15-30 days	44	44%
	>30 days	8	8%
	Acyclical	44	44%
Menstrual Flow	Heavy	48	48%
	Average	50	50%
	Scanty	2	2%
Intermenstrual Bleeding	Present	48	38%
	Absent	52	62%
Dysmenorrhea	Present	64	64%
	Absent	36	36%

Table 3: Para and History of contraception of the patients (n=100)

Para	Number of Pt. (n=100)	Percentage
Multiparous	76	76%
Nulliparous	24	24%
Contraception		
Nil	88	88%
Injectable	4	4%
OCP	8	8%

Table 3 shows the majority of the patients were multiparous 76%. 4% of patients used injectable contraceptives, and 8% of patients used OCP.

Figure 1 shows that 8% of patients had diabetes mellitus, 7% of patients had thyroid disease and 9% of patients had hypertension.

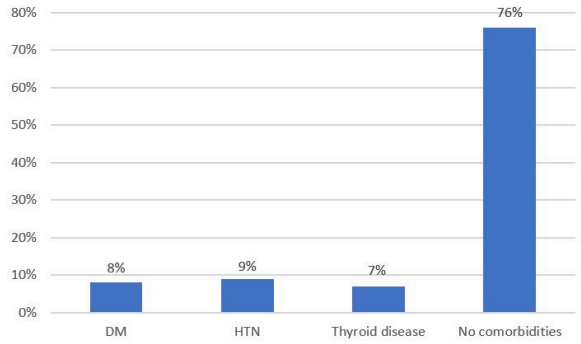

Figure 1: Comorbid diseases (n=100)

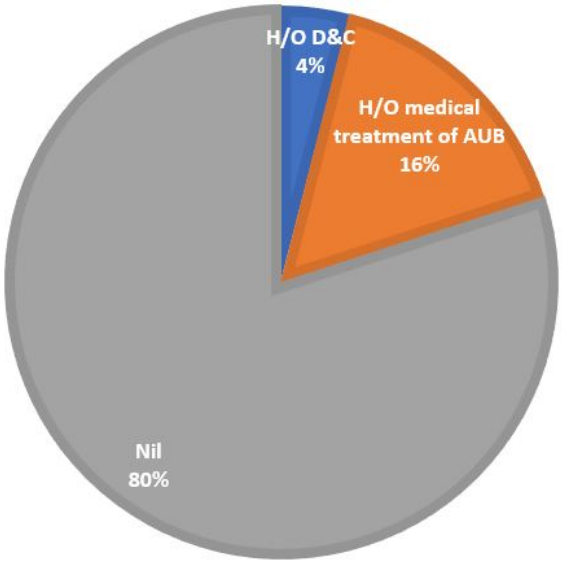

Figure 2: Past medical and surgical history (n=100)

Figure 2 shows that 4% of patients had a history of D & C and 16% of patients had h/o medical treatment for AUB.

Table 4: Pervaginal examination (n=100)

Per vaginal		Number (n=100)	Percentage
Per speculum	Cervical Polyp	8	8%
	Normal	88	88%
	Broad cervix	4	4%
Bimanual Examination	Normal	12	12%
	Just Bulky	10	10%
	8-12 weeks	44	44%
	>12 weeks	34	34%

Table 4 shows that per speculum examination 8% of patients had Cervical Polyp, 4% of patients had broad cervix, and on bimanual examination, 44% of patients had 8-12 weeks sized uterus.

Table 5: Laboratory data (n=100)

	N	Minimum	Maximum	Mean	Std. Deviation
Hb%(gm/dl)	100	6.7000	13.4000	10.272000	1.5357083
Total count(/cumm)	100	5600	5172	10362.16	8639.991
Platelet count	100	67724	450000	261606.12	74813.978
2 hours after meal-	100	5.4800	14.7000	7.447200	1.7346091
TSH(IU/mcl)	100	0.6	4.6	2.09	0.023
Valid N (listwise)	100				

Table 5 shows different descriptive values where the Mean Hb level is 10.27 gm/dl, Platelets count 261606/cumm, and TSH level is 2.09 miu/L

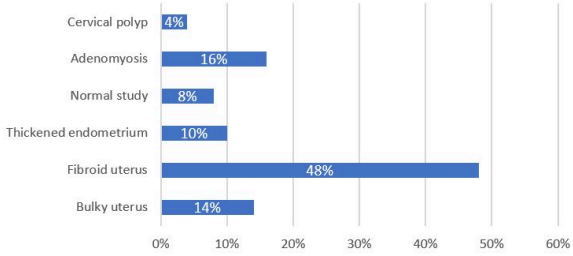

Figure 3: USG Findings (n=100)

Figure 3 shows 48% had Fibroid uterus, 16% of patient had Adenomyosis

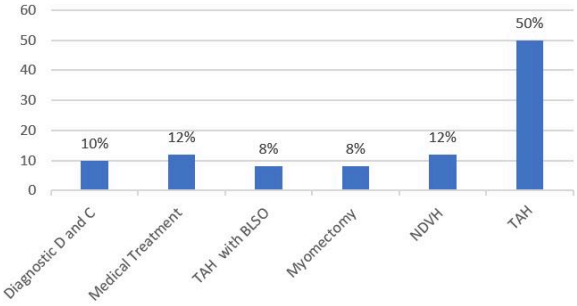

Figure 4: Types of treatment given (n=100)

Figure 4 showing 50% of patients had undergone TAH, NDVH was done in 12% of cases, Myomectomy was done in 8% of cases and medical treatment was given in 12% of cases.

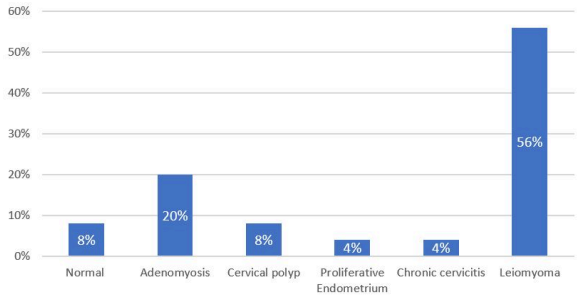

Figure 5: Histopathological findings (n =100)

Histopathology report shows the commonest pathology was Leiomyoma (56%), followed by Adenomyosis (20%). The cervical polyp was found in 8% of cases, and Chronic cervicitis was found in 4% of cases.

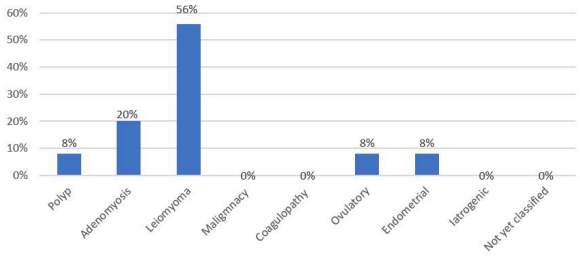

Figure 6: PALM-COEIN findings (n=100)

Figure 6 shows the distribution of the study population according to the PALM-COEIN classification. Most of the patients belong to the PALM group,56% of patients had AUB(L),20% of patients had AUB(A) and 8% of patients had AUB(P). Regarding the COEIN group, 8% of patients had AUB(O) and 8% of patients had AUB (E).

Discussion

AUB is a common gynecological problem that affects women during their reproductive years. The present study was conducted among 100 cases of abnormal uterine bleeding having ages of 18 to 50 years and causes of bleeding were evaluated. Among all 30-35 years age group was mostly affected (27%), followed by 36-40 years (23%) age group. A study regarding AUB was made by Rehana et al, where majority had been between ages of 30 and 40 years.[17] Regarding socioeconomic status of patients, 64% were average and 36% of patients belonged to poor socioeconomic conditions. Educational levels of study patients revealed that 8% had no education, 60% had completed primary and 32% had secondary education. In this study, AUB was found to be more in multiparous women (76%). A similar observational study was made by Nargis et al [18] and found AUB more common in high parity. Among them, only 12% of patients had a history of taking contraceptive methods. Menstrual cycle showed, that 44% had irregular cycles. Menstrual flow showed, that 48% had heavy menstrual bleeding and 38% had intermenstrual bleeding. 64% of patients had dysmenorrhea. A 34% incidence of adenomyosis features is found in young nulliparous women between 18-30 years of age and is associated with dysmenorrhea.[19]

Women with dysmenorrhea have higher levels of prostaglandins, which are highest during the first two days of menstruation. [20] Prostaglandin production is controlled by progesterone: when progesterone levels drop, immediately before menstruation, prostaglandin levels increase. [21], [22] Another common clinical manifestation was intermenstrual bleeding (48%). This pattern can be considered as AUB(O). Here the endometrium is without hormonal support so, slight losses or spotting occurs many days before the proper flow starts. [23] The PALM–COEIN classification has the advantage of considering the entire range of possible etiologies but should be followed by further investigation to arrive at a more accurate and consistent diagnosis in the perimenopausal group. In our study, AUB-L was the major contributor in the PALM group (56%) followed by Adenomyosis (20%). Leiomyomas are known to be predominant in the age group presently studied. A study of DHQ Hospital and Nishtar Hospital Multan made by Hafiz R et al. [24] in which AUB evaluation revealed that the highest prevalence of fibroid was found (53.8%). The majority of women with fibroid uterus are associated with menorrhagia, as the surface area of the endometrium is increased. Per vaginal examinations revealed 8% had cervical polyps. Bimanual examination revealed that 24% had 8 weeks sized uterus and 64% of patients had more than 8 weeks sized uterus. USG is done in all cases for the detection of pathology. 48% of patients had leiomyoma, 12% of patients had adenomyosis, 10% of patients had thickened endometrium and 8% of patients had normal study. Regarding treatment options, 12% of patients were treated with hormone supplements. Different operations were done where TAH was done on 50% of cases, NDVH was done on 12% of cases, diagnostic D& C was done on 10% of cases, 8% undergone myomectomy and TAH with BLSO was done in 8% of cases. 2/3rd of patients with AUB undergo hysterectomy (16) In our country 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. Histopathology reports revealed 56% had leiomyoma, 20% adenomyosis, 8% cervical polyp, and proliferative endometrium found in 4% of cases and 4% had chronic cervicitis. Although hysteroscopy and directed biopsy are the gold standard in diagnostic workup of AUB. Dilatation and curettage can be a diagnostic tool as well as therapeutic procedures. [24]

And is still the most common available practice in public hospitals. Histopathological pattern of endometrium in women with AUB is quite variable depending upon age, parity, and ethnicity. The incidence of endometrial hyperplasia was less in our study in comparison to other studies. [25]

This may be due to the reason that most of the patients in our country with low socioeconomic backgrounds and low instances of associated risk factors like diabetes, obesity and a sedentary lifestyle. In our study, 8% of the patients gave a history of diabetes mellitus, and 7% of patients gave a history of thyroid disorder.

The maximum number of AUB cases according to PALM-COEIN classification belong to category AUB – L (56%) followed by AUB –A (20%) and among the nonstructural causes AUB-O (8%), AUB-E(8%) were the most common.

Conclusion

In conclusion, it can be said that abnormal uterine bleeding is a common and sometimes debilitating condition in women of reproductive age. The PALM–COEIN classification system takes into account both the clinical and histopathological diagnosis of AUB.

A systematic approach to diagnosis, investigation and a step-wise approach to intervention is necessary. Treatment commencing with medical therapeutic modalities followed by surgical modalities is the ultimate goal of all therapeutic interventions.

Limitations

It was a single-centre study that did not represent the total population.
The sample size was very small.

Recommendations

Further study with large scale multicenter study with a bigger sample and more focused questionnaire can help in observing the correlation between histopathological and FIGO.
Classification of causes behind AUB.

Permission from Institutional research board: Yes

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Conflict of interest: None Initiated

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