

Original Research Article

A prospective study of an analytical study of abnormal uterine bleeding in women of child bearing age group in a tertiary care hospital**C.Vijaya Lakshmi****Associate Professor, Department of Obstetrics and Gynecology, Government General Hospital, Ananthapuramu, Andhra Pradesh, India***Received: 09-06-2021 / Revised: 11-07-2021 / Accepted: 07-09-2021****Abstract**

Introduction: Abnormal uterine bleeding (AUB) is the most common symptom of gynecological conditions, which is defined as any type of bleeding in which the duration, frequency, or amount is excessive for an individual patient. AUB is regarded as a sign of possible uterine disease. It is the most common symptom and main complaint among Indian women of childbearing age in the gynecological clinic, accounting for 30% of gynecological outpatient clinics. **Materials and Methods:** This is a prospective study done in Department of Obstetrics and Gynecology, Government General Hospital, Ananthapuramu. It was done in 2 years from June 2019 to June 2021. Relevant clinical data regarding age, pattern and duration of abnormal bleeding, menstrual history, obstetric history, physical and gynaecological examination findings, laboratory investigation results, sonological reports, hysteroscopic findings and histopathological reports were obtained from patients. All data were recorded in a carefully structured proforma. **Results:** The most common age-group presenting with AUB was 40 to 49 years of age (58%) and the most common histological pattern was secretory (47.7%). 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-E (26.8%). In a sub-set of patients, who underwent hysterectomy, histopathological samples were compared to endometrial samples which were similar in 81.6% cases. **Conclusion:** Incidence and pattern of AUB varies according to the age of the patient. It is more common in perimenopausal age-group. Classification of AUB as per PALM-COEIN helps in better understanding of disease and successful management of patients.

Keywords: Abnormal uterine bleeding, menstrual history, obstetric history, PALM-COEIN.

This is an Open Access article that uses a fund-ing model which does not charge readers or their institutions for access and distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>) and the Budapest Open Access Initiative (<http://www.budapestopenaccessinitiative.org/read>), which permit unrestricted use, distribution, and reproduction in any medium, provided original work is properly credited.

Introduction

Abnormal uterine bleeding (AUB) is the most common symptom of gynecological conditions, which is defined as any type of bleeding in which the duration, frequency, or amount is excessive for an individual patient. AUB is regarded as a sign of possible uterine disease, including acute and chronic AUB. It is the most common symptom and main complaint among Indian women of childbearing age in the gynecological clinic, accounting for 30% of gynecological outpatient clinics[1].

WHO defines adolescent as a group of the youth in the age group of 10-19 years, who form an important segment of society[2].

Gynecologic problems of adolescent occupy a special space in the spectrum of gynecologic disorders of all ages. Menstrual disorders and abnormal uterine bleeding (AUB) are among the most frequent gynecologic complaints of adolescents. Abnormal uterine bleeding (AUB) is a term coined to incorporate bleeding that is excessive or occurs outside of normal cyclic menstruation[3]. Its importance lies in the fact that AUB has a major impact on women's quality of life, productivity and utilization of healthcare services. A revised terminology system was introduced in 2011 by the International Federation of Gynecology and Obstetrics (FIGO) to approach AUB in non-pregnant reproductive age women. This classification system was referred to by the acronym - palm coein[4].

AUB is a common condition affecting women at all ages and interferes with women's physical, emotional and social quality of life. It is important to reach correct clinical diagnosis and identify the causative factor. Ultrasonography is usually a safe initial investigation as it is non-invasive and can give us an idea about any structural cause. Hysteroscopy has been generally accepted as gold standard in evaluation of the uterine cavity[5]. It has high sensitivity and specificity in diagnosis due to the fact that the uterine cavity and intrauterine pathology are directly visualized. Histopathological evaluation of endometrial tissue by curetting or aspiration is a safe & effective method for determining the cause of AUB after excluding systemic and structural causes[6].

Indications are failure of medical treatment, >40 yrs of age, inter menstrual bleeding, postmenopausal bleeding, family history of endometrial carcinoma and thick endometrium in ultrasound. Patients with history of anovulation, diabetes, obesity, hypertension, exogenous use of estrogen are at an increased risk of endometrial hyperplasia and endometrial carcinoma[7].

Materials and methods

This is a prospective study done in Department of Obstetrics and Gynecology, Government General Hospital, Ananthapuramu. It was done in 2 years from June 2019 to June 2021.

Inclusion criteria

All women of reproductive age groups of year 20-55, suffering from AUB and underwent diagnostic endometrial biopsy were included in the study.

Exclusion criteria

- Postmenopausal women, pregnant women, different types of abortion
- Patients lost to follow up from treatment and who refused diagnostic biopsy.

*Correspondence

Dr. C.Vijaya Lakshmi

Associate Professor, Department of Obstetrics and Gynecology, Government General Hospital, Ananthapuramu, Andhra Pradesh, India.

E-mail: pallacvl@gmail.com

Relevant clinical data regarding age, pattern and duration of abnormal bleeding, menstrual history, obstetric history, physical and gynaecological examination findings, laboratory investigation results, sonological reports, hysteroscopic findings and histopathological reports were obtained from patients. All data were recorded in a carefully structured proforma. A total of 136 cases were analysed and histological diagnosis was made. In the subset of patients undergoing hysterectomy, histopathological reports were recorded for comparison.

Before starting work up of AUB, proper history is to be taken to exclude pregnancy and with the use of urine or serum beta HCG. The second step is to exclude structural etiologies of PALM group i.e. polyp, adenomyosis, leiomyoma and malignancy or premalignant conditions like hyperplasia. So, uterine assessment was performed using a trans-vaginal or trans-abdominal ultrasound.

An office endometrial biopsy was planned for patients over 40 years and those at higher risk of endometrial cancer: nulliparous, high BMI (30 kg/m²), PCOS, diabetic, family history of hereditary non-polyposis colorectal cancer syndrome and when treatment failed to stop AUB to rule out any malignant aetiology.

After all these steps are completed and structural cause are excluded, the non-structural origin of AUB is suspected, and clinicians have to classify patients of this group in one or a combination of the following etiologies: due to coagulopathy, (AUB-C), primary endometrial disorder (AUB-E), disorder of ovulation (AUB-O), due to iatrogenic cause (AUB-I) like intrauterine contraceptive device, sex steroid hormones, and AUB-N i.e. not yet classified. AUB-E is a diagnosis of exclusion when no other causes are identified.

Data were entered in Microsoft Excel and managed in SPSS version 16. Analysis was done in the form of percentages and proportions and represented as tables and figures where necessary. AUB was classified as per PALM-COEIN classification.

Results

Highest incidence is found in age groups of year between 40-49 years of age followed by 30-39 years, then 50 years and above. Least incidence was found in 20-30 years age group. Different patterns of abnormal uterine bleeding are shown in Table 1.

Table 1: Age Distribution

S.No	Age group	N (%)
1	20-29 years	8 (5.50%)
2	30-39 years	36 (26.50%)
3	40-49 years	80 (58.80%)
4	50 years and above	12 (9.20%)

The most common pattern found was menorrhagia followed by metrorrhagia, polymenorrhoea, menometrorrhagia, and hypomenorrhoea. Medical disorders with AUB were found in a

sub-set of patients. Medical disorders were listed in present study e.g. hypothyroidism, heart disease, hypertension and hepatitis B positive.

Table 2: Different patterns of AUB

S.No	Pattern of AUB	No of cases	Percentage
1	Menorrhagia	80	58.45
2	Metrorrhagia	26	19.12
3	Polymenorrhoea	16	11.76
4	Menometrorrhagia	5	4.04
5	Hypomenorrhoea	2	1.1
6	Polymenorrhagia	7	5.5
7	Total	136	100

On clinical examination, among 136 patients, 25 patients had endocervical polyp, 63 patients had normal sized uterus and 73 patients had bulky uterus, 3 patients had adnexal mass. Trans-

abdominal ultrasonography showed fibroid in 32 patients, adenomyoma in 10 patients, endometrial polyp in 6 patients, thick endometrium in 5 patients and ovarian cyst in 3 cases.

Table 3: Different histological subtypes of endometrial biopsy reports

S.No	Histological subtypes	No of cases	Percentage
1	Secretory	65	47.8
2	Proliferative	35	25.7
3	Disordered proliferative	10	7.35
4	Mixed pattern	13	9.5
5	Endometritis	5	4
6	Simple hyperplasia without atypia	6	4.4
7	Adenocarcinoma	1	0.7
8	Atrophic endometrium	2	0.3

Table 4: Incidence as per PALM-COEIN classification

S.No	Classifications	Incidence	Percentage
1	AUB-E	36	26.8
2	AUB-L	28	20.2
3	AUB-O	24	18.1
4	AUB-P	22	16.2
5	AUB-A	9	6.2
6	AUB-M	7	5.1
7	AUB-I	1	0.4
8	AUB-N	1	0.4
9	AUB-L, O	2	2.2

10	AUB-L, P	2	1.1
11	AUB-P, O	2	1.8
12	AUB-A, O	2	1.5

There was a subset of 30 patients who underwent endometrial biopsy and later on hysterectomy for their respective indications. The result of histopathological report was similar in 24 cases. In only 6 cases, the result varied. In one case, authors found cavernous hemangioma in hysterectomy samples and proliferative endometrium in endometrial aspiration samples. Sensitivity of the endometrial biopsy report was found to be 81.6%.

Discussion

Abnormal uterine bleeding is described as any bleeding which does not fulfil the criteria of normal menstrual bleeding. There are various causes of AUB. Organic cause of abnormal uterine bleeding may be subdivided into reproductive tract disease, iatrogenic causes and systemic disease. After exclusion of all organic causes, diagnosis of dysfunctional uterine bleeding (DUB) is assumed. In about 25% of the patients, the abnormal uterine bleeding is the result of a well-defined organic abnormality[9].

Present study significantly shows that the incidence of menstrual disorders increases with advancing age. The commonest age group presenting with excessive bleeding in present study was 40 years and above. A similar incidence was reported by Yusuf et al and Muzaffar et al in their study of endometrium.

Present study like several others showed anovulatory cycles, disordered proliferative pattern, hyperplasia and benign endometrial polyp occurring more commonly in the age group 41-50 years. The reason for increased incidence of abnormal uterine bleeding in this age group may be due to the start of climacteric period. In this phase, cycles shorten or prolong and often become anovulatory due to a decrease in the number of ovarian follicles and the estradiol level. Finally, there is a disbalance in hypothalamo-pituitary-ovarian axis leading to rise in serum FSH level.

The bleeding in the proliferative phase and in the secretory phase may be due to anovulatory cycles and ovulatory dysfunctional uterine bleeding, respectively. A significant number of cases showed disordered proliferative pattern in this study. Disordered proliferative pattern lies at one end of the spectrum of proliferative lesions of the endometrium and carcinoma at the other end with hyperplasia in the middle. It describes an endometrial appearance that is hyperplastic but without an increase in endometrial volume.

It is said to be a proliferative phase endometrium that does not correspond to any one phase of the menstrual cycle and is not abnormal enough to be considered hyperplastic. Diagnosing the patients at the earliest stage of this spectrum will be of definitive help to the practicing gynaecologists to prevent the disease progression and prompt management of premalignant lesions. The incidence of endometrial hyperplasias in this study was less as compared to others. This is due to the reason that most of the patients belong to lower socioeconomic status and there is low occurrence of risk factors like diabetes, obesity and sedentary lifestyle. Another reason could be that most of these patients are being identified at a much earlier stage that is in the disordered proliferative phase. Endometrial hyperplasia is thought to be precursors of endometrial carcinoma. Risk increases gradually from simple hyperplasia without atypia to its maximum risk in complex hyperplasia with atypia[10].

The incidence of benign endometrial polyps in this study was high in 41-50 years age group. There is a lower incidence of endometrial polyp in younger age. Due to normal cycling endometrium, endometrial polyp spontaneously regresses which leads to its low incidence in young women. Difference between the endometrial polyp

and normal endometrium are in receptor expression, cell proliferation and apoptosis regulation. This is combined with non-random chromosomal aberrations and monoclonality that suggests polyp may provide a suitable microenvironment for the development of malignancy. But there is not much literature over this topic.

75% of fibroids are generally asymptomatic. So, how fibroid contributes in causing AUB is not completely understood till now.

Conclusion

Incidence and pattern of abnormal uterine bleeding varies according to the age and reproductive state of patient. There are other different factors causing AUB. One cannot manage every patient in a similar manner. After proper classification of AUB by PALM-COEIN, patients can be treated medically or surgically according to the cause leading to better success rate. After complete work up of patients of abnormal uterine bleeding, full history and diagnosis of the disease can be summarised in one word as per PALM-COEIN and management can be done in a better way.

References

1. Chen BH, Giudice LC. Dysfunctional uterine bleeding. *West J Med.* 1998 Nov;169(5):280-4.
2. Farrel E. Dysfunctional uterine bleeding. *Austral Fam Phys.* 2004;33(11).
3. Sun Y, Wang Y, Mao L, Wen J, Bai W. Prevalence of abnormal uterine bleeding according to new International federation of gynecology and obstetrics classification in Chinese women of reproductive age. *Medicine (Baltimore).* 2018;97(31):11457.
4. Rashida Hafiz, Muhammad Ali, Mansoor Ahmad. Fibroid as a causative factor in menorrhagia and its management. *Pakistan J Med Res.* 2003;42(3).
5. Goodman A. Abnormal genital tract bleeding. *Clin Cornerstone.* 2000;3(1):25-35.
6. Fabres C, Arriagada P, Fernández C, MacKenna A, Zegers F, Fernández E. Surgical treatment and follow-up of women with intermenstrual bleeding due to 25 Cesarean section scar defect. *J Minim Invas Gynecol* 2005;12(1):25-8.
7. Moradan S, Gorbani R. Is previous tubal ligation a risk factor for hysterectomy because of abnormal uterine bleeding? *Oman Med J.* 2012;27(4):326-8.
8. Letchworth AT, Kane JL, Noble AD. Laparoscopy or mini laparotomy for sterilization of women. *Obstet Gynecol.* 1980;56(1):119-21.
9. Dijkhuizen FP, Mol BW, Brölmann HA, Heintz AP. Cost-effectiveness of the use of transvaginal sonography in the evaluation bleeding. *Maturitas.* 2003;45(4):275-82.
10. Hallberg L, Hogdahl AM, Nilsson L, Rybo G. Menstrual blood loss-a population study. Variation at different ages and attempts to define normality. *Acta Obstet Gynecol Scand.* 1966;45(3):320-51.

Conflict of Interest: Nil

Source of support: Nil