

Abnormal uterine bleeding

Dr. Astha Saheta, Dr.C.Hariharan, Dr.Urvashi Sharma

I. Introduction

Abnormal uterine bleeding is the commonest presenting symptom and major gynecological problem responsible for as many as one-third of all out patient gynecologic visit.^{1,2} The endometrium which lines the uterine cavity is one of the most dynamic tissues in the human body. It is characterized by cyclic processes of cell proliferation, differentiation and death in response to sex steroids elaborated in the ovary.³ Menorrhagia affects 10-30% of menstruating women at any one time, and may occur at some time during the perimenopause in upto 50% of women.⁴

Abnormal uterine bleeding is defined as any bleeding pattern that differs in the frequency, duration and amount from a pattern observed during a normal menstrual cycle or menopause. It is a common problem having a long list of causes in different age groups.⁵ The prevalence of abnormal uterine bleeding in reproductive age group ranges from 9% to 30%.⁶

It is a debilitating disorder both medically and socially. In addition, it is the commonest cause of iron deficiency in the developed world and of chronic illness in the developing world (Royal College of Obstetrics and Gynaecology [RCOG], 1998). The number of menses experienced by women in their lifetimes increased as a result of the reduction of family size leading to shorter periods of childbearing and lactational amenorrhoea. As a consequence, abnormal menstruation is especially a problem of the twentieth century.⁷

Menstrual history and physical examination are the mainstay of evaluation of cases. Laboratory tests, imaging studies and histological examinations may be indicated, as well. Its management is complicated and variable according to the case.

II. Endometrial Sampling

Endometrial sampling provides tissue for histological diagnosis and thus exclusion of premalignant or malignant disease. Dilatation and curettage (D&C) has been the traditional gold-standard investigation for AUB. Alternative methods have been sought as a D&C requires general anaesthesia and is a blind procedure for tissue sampling. Two-thirds of women examined by this method have been reported to have less than half the uterine cavity sampled and 16% less than one-quarter. The main disadvantage of a blind endometrial biopsy is that focal lesions such as polyps, submucous fibroids and localized pathological lesions may be missed. The endometrial sampling is chosen to evaluate abnormal uterine bleeding because it has several advantages over other diagnostic methods. The hormonal assay is very expensive and laboratories with hormonal assay are not available in rural areas.

III. Ultrasound

Pelvic ultrasound is the least invasive of the outpatient techniques that can be used for visualisation of the structure of the uterus and for visualisation of the thickness of the endometrium. USG has a reduced diagnostic specificity. A subsequent meta-analysis (pooling data from four studies) demonstrated that a negative ultrasound result of 5 mm or less reduced the risk of disease by 84%. In contrast, in the premenopausal woman the role of pelvic ultrasound is in the diagnosis of structural abnormalities as an explanation for AUB, such as submucous fibroids or endometrial polyps. The advantages of pelvic ultrasound are that it is non-invasive, there is no need for anaesthesia and, in certain cases, it provides additional information that may assist both diagnosis and treatment choice. In clinical practice it is common for radiologists and radiographers to undertake ultrasound investigation by both methods, starting with abdominal, which requires a full bladder to provide optimal visualisation of the ovaries and uterine structure.

IV. Need For Study

In ambulatory assessment of women with abnormal uterine bleeding, the main aim is to exclude endometrial pathology, particularly carcinoma and hyperplasia. However there is no consensus as to which set of investigations should be used. While some clinicians resort to ultrasound imaging techniques as well as tissue sampling, others advocate endoscopic examination. There is a lack of good quality research evidence on the accuracy of the various diagnostic tests in predicting endometrial lesions. This dearth of relevant evidence prompted the research presented in this thesis.

V. Aim And Objectives Of The Study:

1. To study clinical presentation AUB
2. To study the risk Factors associated with AUB.
3. To compare the histopathology and ultrasonography features in the diagnosis of AUB.
4. To know the prevalence of AUB in patients attending gynac OPD in AcharyaVinobhaBhave Rural Hospital (AVBRH)

New Classification System Categorizes Causes of Abnormal Uterine Bleeding⁴¹ From FIGO (Medscape Education Clinical Briefs)

- After a thorough 5-year review process beginning with workshops in 2005, a group of clinician-investigators from 17 countries on 6 continents who had substantial experience in AUB research developed and revised a draft system that was distributed for comments. The PALM-COEIN classification system was then discussed at a meeting held in association with the 2009 FIGO World Congress in Cape Town, South Africa, and subsequently approved by the FIGO Executive Board as a FIGO classification system.
- June 7, 2011 — The International Federation of Gynecology and Obstetrics (FIGO) has approved a new classification system (PALM-COEIN) for causes of abnormal uterine bleeding (AUB) in non-gravid women of reproductive age.
- Out of the 9 categories in the new FIGO classification system (PALM-COEIN), the first 4 are defined as visually objective structural criteria (PALM: polyp, adenomyosis, leiomyoma, and malignancy and hyperplasia). The second 4 are unrelated to structural abnormalities (COEI: coagulopathy, ovulatory dysfunction, endometrial, and iatrogenic), and the final category is for entities that are not yet classified (N).

Aub: Palm Coein Classification^{29,30,31,42}

- PALM
- P: Endometrial polyp
- A: Adenomyosis
- L: Leiomyoma
- M: Malignancy and hyperplasia

Coein:

- C: Coagulopathy Clotting factor deficiency or defect
- O: Ovulatory
- E: Endometrial
- I: Iatrogenic Conditions
- N: Not Classified

Causes of AUB by Age Group⁴²

Reproductive age

1. Anovulation
2. Pregnancy
3. Endocrine Disorder
4. Polyps/ fibroids/ Adenomyosis
5. Medication related (oral contraceptives)
6. Infection
7. Sarcoma, ovarian
8. Coagulation disorder

Perimenopausal

1. Anovulation leading to unopposed estrogen and Hyperplasia
2. Polyp/ Fibroid /Adenomyosis
3. Cancer

Postmenopausal

1. Atrophy
2. Cancer/polyp
3. Estrogen therapy
4. Selective Estrogen Receptor Modulators

VI. Material And Methods

1. Study Setting:-

The study conducted is a prospective hospital record based study in a tertiary health care centre-AcharyaVinobhaBhave Rural Hospital (AVBRH) attached to Jawaharlal Nehru Medical College (JNMC) which come under D

attaMeghe Institute of Medical Sciences (DMIMS) University .The institute is situated in Sawangi (meghe) a vilage about 4kms from Wardha. From September 2012 to september 2014.

2. Sample size- 100 subjects attending gynacopd with symptoms of AUB were taken for analysis

Source Of Data:

Patients admitted in Gynac ward of A. V. B. R.H. SawangiWardha, presenting abnormal uterine bleeding are included in our study by applying the following inclusion & exclusion criteria. The study will be conducted during the period from September 2012 to September 2014.

Inclusion criteria

1. All OPD patients attending gynac clinic presenting with AUB
2. Age group between 21 to 60 years

Exclusion criteria

1. Pregnancy and pregnancy related conditions.
2. Females less than age 21 and more than 60.
3. Patients with bleeding disorders.
4. Patients with anatomic causes.

VII. Method Of Collection Of Data

(Including sampling procedure, if any):

Data will be collected from a specially designed Performa case recording Performa (CRF) pertaining to patient's particulars, proper history, clinical examinations, investigations, diagnosis & surgical procedures. It is then subjected to statistical analysis with the help of biostatistician of our institute. All the surgical procedures & medical management and investigations will be conducted under direct guidance and supervision of our guide. Before start of our study a written/informed consent will be obtained in local vernacular in each patient.

Statistical analysis

Statistical analysis was done by using descriptive and inferential statistics using z test for single proportion. The software using analysis were SPSS 17.0 version and GRAPH PAD PRISM 5.01 version and $p < 0.05$ is considered as level of significance.

The following analysis made are as follows:

1. Age distribution pattern(table no)
2. Relationship of AUB with Parity
3. Duration Of Abnormal Uterine Bleeding
4. Past history of study subjects
5. Family history of study subjects
6. Study Of Per Speculum Examination
7. Study Of Per Vagina Examination
8. Study Of Pap Smear
9. Abnormal Pap smear in study subjects
10. TVS ET (mm) in the subjects studied
11. Bleeding patterns in AUB patients
12. Incidence of underlying structural causes in 100 subjects
13. Histopathological findings in the present study
14. Patterns of distribution of histopathological findings among various age groups.
15. Tables showing treatment and intervention done in study subjects

VIII. Summary And Conclusion

AUB is one of the most common problem in women of all age groups in reproductive period. It is challenging gynecological problem caused by various endometrial pathologies. Endometrium is the mirror of hormonal status in women. Histological variations can be seen in the endometrium according to age of women and phase of her menstrual cycle and any other specific pathology.

This was a study of a random selection of women from the gynac OPD in AcharyaVinobhaBhave Hospital who came with the complaints of Abnormal Uterine Bleeding. The women underwent ultrasonography and endometrial biopsy with all necessary investigations were performed and after full evaluation it was found that the most common clinical presentation was Heavy Menstrual Bleeding followed by Intermittent Menstrual Bleeding. Maximum numbers of women came within 6 months of symptoms. The major risk factors observed were age, parity and menopausal status. The maximum incidence of AUB seen in patients in peri-menopausal age group i.e 36-40 years of age and those who were multiparous.

With regards to diagnosis of AUB, pelvic ultrasound is the least invasive procedure used for visualization of the structure of the uterus and for visualization of the thickness of endometrium. In certain cases, it provides additional information that may assist both diagnosis and treatment choices.

Whereas Endometrial sampling could be effectively used as the first diagnostic step in abnormal uterine bleeding although at times its interpretation could be quite challenging to the practicing pathologist. It is a simple, cost-effective and appropriate method that provides accurate diagnostic yield. The present study highlights the importance of endometrial biopsy and its interpretation which plays a pivotal role in the management of AUB. So the ultrasonography and endometrial biopsy still remains the gold standard for diagnosis of AUB in a rural setup.

The treatment and intervention taken in 100 Study subjects in AVBRH are as follows: out of 100 study subjects 37% had total abdominal hysterectomy, followed by therapeutic D&C done in 29 subjects, Exploratory laparotomy was done in 16% and hormonal treatment given to 18% of cases.

Histopathological examination of endometrial biopsies in patients of abnormal uterine bleeding shows a wide spectrum of changes ranging from normal endometrium in various hormonal cycles to malignancy. In present study, the most frequent finding seen in patients with AUB in their reproductive age group was proliferative phase. In peri and postmenopausal women simple hyperplasia without atypia was most frequently noted.

Further on post operative histopathology of specimens it was found that the prevalence of leiomyoma, adenomyosis and ovulatory disorders accounts for 55% whereas endometrial polyp, endometrial stromal sarcoma were the rare findings in diagnosed cases of AUB in the present study. It was observed that AUB contribute for a major bulk of gynec surgeries on going in AVBRH. That includes both major and minor procedures.

IX. Conclusions

A study of 100 patients in clinically diagnosed with abnormal uterine bleeding was carried out from September 2012 to September 2014 in AVBRH.

Outcome of the Clinical and Histopathological findings are as follows:-

1. Patients belonging to various age groups were taken up for the study. The maximum incidence of AUB was in the 36-40 years age group. The minimum incidence of AUB was in 21-25 years.
2. With respect to parity of subjects, maximum incidence of abnormal uterine bleeding was seen in the parity of 1-3 and minimum incidence in nulliparous women.
3. The most common type of bleeding pattern observed was Heavy menstrual bleeding followed by intermenstrual bleeding in patients.
4. The maximum numbers of patients came with the 1-6 months duration of AUB. Hypertension was the commonest of the medical illnesses noted, followed by Diabetes mellitus. Severe Anemia was a coincidental finding in 7% of patients admitted with chronic AUB.
5. The role for pelvic ultrasound in the diagnosis of structural abnormalities is very important. In contrast In our study it was found that There are no pathognomonic sonographic characteristics that correlate completely with histology, so comprehensive tissue diagnosis remains the gold standard.
6. The new classification system approved for the causes of AUB by International Federation of Gynecology and Obstetrics (FIGO) is PALM-COEN: Polyp, adenomyosis, leiomyoma, malignancy and hyperplasia, coagulopathy, ovulatory dysfunction, iatrogenic, endometrial causes and not yet classified.

The new terminologies have been approved by FIGO and they are :-

- a) Heavy menstrual bleeding (HMB) should replace menorrhagia to describe excess of bleeding.
- b) Inter menstrual bleeding (IMB) that occurs between clearly defined cyclic and predictable menses should replace the term metrorrhagia
- c) Heavy and prolonged bleeding (HPB) should replace menometrorrhagia and frequent menstrual bleeding should replace polymenorrhea

In the present study, there were 40 cases of structural causes detected on clinical, ultrasonography and histopathological examination of endometrial biopsies and 60 (60%) cases belong to non structural causes.

7. The most common finding in the reproductive age group is proliferative endometrium whereas The simple hyperplasia without atypia was predominant finding in perimenopausal age group. Whereas atrophic endometrium was mostly found in postmenopausal women.
8. In the present study, the two important observations were made regarding endometrial hyperplasia in AUB and they are:
 - a) Endometrial hyperplasia was highest in the age group of 41-50 years
 - b) It was highest in patients with history of heavy menstrual bleeding
9. All possible underlying causes 60 were categorized according to new classification system. It was observed that AUB contribute for a major bulk of gynec surgeries on going in AVBRH. That includes both major and minor procedures.

10. AUB can be assessed by duration and timing of flow, haemoglobin or hematocrit, serum progesterone levels, evaluation of the uterus on ultrasound testing, screening transvaginal ultrasound test of the endometrial cavity and evaluation for coagulopathies with the use of structured history as screening.
11. In AVBRH, which is a rural hospital patients coming with Abnormal Uterine Bleeding were analysed clinically and underwent ultrasonography and endometrial biopsy. The majority of patients has dual pathology with leiomyoma, adenomyosis and ovulatory disorders with predominating proliferative phase in histopathology. Even though facilities are available for hormonal assays, CT and MRI, patients could not afford such costly investigations. Hence ultrasound and endometrial biopsy still remains as Gold Standard for Rural patients.

In India, where majority is rural population, low cost investigations and treatment should be considered for the benefit of the patients.