ORIGINAL RESEARCH PAPER
VOLUME-6 | ISSUE-5 | MAY - 2017 | ISSN No 2277 - 8179 | IF : 4.176 | IC Value : 78.46
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

PALM-COEIN FIGO Classification for diagnosis of Abnormal Uterine Bleeding: Practical Utility of same at Tertiary Care Centre

Gynaecology

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ABSTRACT

In an effort to create a universally accepted system of nomenclature to describe uterine bleeding abnormalities, an alternative classification system polyp, adenomyosis, leiomyoma, malignancy and hyperplasia, coagulopathy, ovulatory dysfunction, endometrial, iatrogenic, and not yet classified, known by the acronym PALM-COEIN, was published in 2011 by the International Federation of Gynaecology and Obstetrics. The PALM-COEIN system classifies uterine bleeding abnormalities by bleeding pattern and etiology. The purpose of this study is to categorize 200 women with AUB presenting to the Gynaecology indoor patients in SMIMER hospital, SURAT according to PALM-COEIN classification system. It is a retrospective study carried out on 200 patients presenting with complaint of abnormal uterine bleeding. They were evaluated on the basis of history, physical and local examination, USG pelvis, endometrial biopsy if required and other necessary investigations. Categorization was done according to the PALM-COEIN FIGO Classification and then the required treatment was given to the patient. After classifying the patients according to PALM-COEIN classification, it was found that leiomyoma was the most common cause of AUB in patients presenting to the Gynaecology indoor (n=75, 37.5%). It was followed by, adenomyosis (n=40, 20%) not yet classified (n= 36, 18%), ovulatory causes (n=22, 11%), endometrial hyperplasia (n=19, 9.5%), iatrogenic (n= 3, 1.5%), polyp (n = 2, 1%) and coagulation abnormalities (n=2, 1%) and malignancy contributing least to the classification (n= 1, 0.5%). Standardization of related terminology, a systematic approach to diagnosis and investigation, and a step-wise approach to intervention is necessary.

KEYWORDS:

INTRODUCTION:-

Abnormal uterine bleeding (AUB) is probably one of the most common gynaecological complaints in the perimenopausal females. It is a significant cause of hysterectomy, and thus is a major health problem.[1,2] AUB is also associated with significant social and physical morbidities in all societies and is reflection of serious underlying pathology.[2,3] Normal menstruation is defined as bleeding from secretory endometrium associated with ovulatory cycle and lasting for 5-7days. Any bleeding not fulfilling these criteria referred as abnormal uterine bleeding (AUB).[2,4] Abnormal Uterine Bleeding is defined as

- Duration less than 2 or greater than 7 days
- Flow greater than 80ml (or subjective impression of heavier than normal flow)
- Cycle length less than 24 or greater than 35 days

Abnormal uterine bleeding describes bleeding that is excessive or outside the normal menstrual cycle. In the premenopausal woman, the differential diagnosis is broad, and pregnancy must always be considered. Determining whether the bleeding is ovulatory or anovulatory is a central part of the evaluation, as anovulation is one of the most common causes of abnormal uterine bleeding.[2,5] AUB may be due to structural abnormalities of the uterus. Some of the more common structural causes of abnormal uterine bleeding include benign (non-cancerous) lesions of the uterus such as polyps, fibroids (myomas), and adenomyosis (uterine thickening caused by endometrial tissue moving into the outer walls of the uterus). Other causes include bleeding associated with early pregnancy, including miscarriage and ectopic pregnancy, as well as bleeding disorders that affect the ability of the blood to clot normally. Lesions of the cervix or vagina (benign and cancerous), chronic infections of the endometrial lining (endometritis), scar tissue (adhesions) in the endometrium, and the use of an intrauterine device (IUCD) also may be associated with abnormal uterine bleeding. Additional causes of abnormal bleeding include medications that can affect the normal release of oestrogen and progesterone; chronic medical problems such as diabetes mellitus or disorders of the liver, kidney, thyroid gland, or adrenal glands; or other medical problems that can affect the production and metabolism of oestrogen and progesterone. Emotional or physical stress as well as significant changes in body weight may disrupt the pituitary release of FSH and LH which prevent ovulation. FIGO Classification system for AUB[6]**:** Up till now there was great controversies all over world in classifying causes of AUB and for its diagnosis. So for maintaining uniformity in diagnosis worldwide FIGO executive board has given a FIGO classification system. There are 9 main categories, which are arranged according to the acronym **palm-coein** (pronounced "**pahm-koin**"): **P**olyp; **A**denomyosis; **L**eiomyoma; **M**alignancy and **H**yperplasia; **C**oagulopathy; **O**vulatory dysfunction; **E**ndometrial; **I**atrogenic; and **N**ot yet classified. In general, the components of the **palm** group are discrete **(structural)** entities that can be measured visually with imaging techniques and/or histopathology, whereas the **coein** group is related to entities that are not defined by imaging or histopathology (**non-structural**).

MATERIALS AND METHOD:-

This is a clinicopathological study of the women with history of AUB,

carried out in department of obstetrics and gynaecology, SMIMER MedicalCollege, for a period of 6 months from august 2016 to January 2017 consisting of 200 cases. Material for the study consisted of the basis of history, physical and local examination, USG pelvis, endometrial biopsy if required. Present study is a retrospective observational study. The cases were collected along with the clinical notes.

Inclusion Criteria:

- Women between menarche to menopause.
- History of unpredictable, irregular menses with excessive bleeding for prolonged duration.
- Increased frequency of menses and intermenstrual bleeding for at least 3 months of duration.

Exclusion Criteria:

- Women with cervical cause for vaginal bleeding.
- Pregnant women with bleeding.

These patients underwent structured history, detailed physical and local examination, necessary Blood investigations and pelvic ultrasonography. Endometrium and hysterectomy specimens' were obtained for histopathology, if needed. According to the PALM-COEIN classification system, the possible causes were identified and the patients were categorized accordingly. Patients identified with polyp, adenomyosis and leiomyoma after per speculum and per vaginal examination followed by ultrasound were categorized under AUB-P, AUB-A and AUB-L respectively. Bleeding due to endometrial carcinoma diagnosed after either endometrial biopsy or hysterectomy on histopathological examination was included under AUB-M category. Patients taking anticoagulants and with defects of coagulation from younger age were grouped under AUB-C category. Bleeding with unpredictable, irregular timing and variable in amount was suspected to be due to ovulatory dysfunction and categorized under AUB-O. When abnormal menstrual bleeding occurred in cyclical and predictable pattern, typical of ovulatory cycles and no other cause is identified, it was considered as a disorder of endometrium and was placed under AUB-E. Patients presenting with abnormal bleeding due to gonadal steroid hormonal intake during the preceding 3 months or due to the usage of inert or medicated intrauterine device was categorized as iatrogenic and grouped under AUB-I. Women not fitting into any category were put under not yet classified category i.e. AUB-N [4-6].

STATISTICAL ANALYSIS:-

Data was analyzed and descriptive statistics were presented as frequencies and percentages.

Table 1: Age distribution of study population

AGE (IN YEARS)	OVERALL n=200(%)
<20	3(1.5%)
20-29	5(2.5%)
30-39	41(20.5%)
40-49	128(64%)
>49	23(11.5%)

Table 2: Distribution of study population based on presenting complaint

COMPLIANT	**OVERALL n=200(%)**
HEAVY MENSES	126(63%)
IRREGULAR MENSES	44(22%)
INTERMITTENT BLEEDING AND SPOTTING	06(3%)
FREQUENT MENSES	24(12%)

Table 3: Distribution of study population based on PALM-COEIN classification

CATEGORY	**NO.OF PTS(n=200)(%)**
POLYP(P)	02(1%)
ADENOMYOSIS(A)	40(20%)
LEIOMYOMA(L)	75(37.5%)
MALIGNANCY(M)	01(0.5%)
COAGULOPATHY(C)	02(1%)
OVULATORY DYSFUNCTION(O)	22(11%)
ENDOMETRIAL(E)	19(9.5%)
IATROGENIC(I)	03(1.5%)
NOT YET CLASSIFIED(N)	36(18%)

DISCUSSION:-

Abnormal uterine bleeding in women of reproductive age is a manifestation of any of a number of disorders or pathologic entities. The absence of a universally accepted method for the classification of AUB has impeded basic science, clinical investigations, and practical applications of medical and surgical therapy. Hence, adoption of new terminologies in clinical practice is needed for the effective management of AUB.

Useful interpretation of results of various clinical and basic science research studies aiming at determining aetiology, treatment and prognosis of AUB was hampered due to lack of consistent classification. The present study primarily focused on categorizing the patients of AUB according to the PALM-COEIN classification similar to the studies done by Khrouf *et al.;*[7] Qureshi FU, Yususf AW[8] so that planning, investigations, and treatment can be easier and done in a proper way. Most of the patients who presented with AUB in gynae OPD were in the age group 40-49 years (64%) And the most common presenting complaint was heavy menstrual bleeding (63%).

According to the study done by Khrouf *et al.;*[7],Qureshi FU, Yususf AW[8]maximum patients of AUB were classified under ovulatory dysfunction, the number being 25% followed by leiomyoma category(24%). Whereas, in a study done by) Qureshi FU, Yususf AW[8] maximum number of patients were categorized under leiomyoma (27%) followed by ovulatory dysfunction (24.67%). Similarly in the present study also, leiomyoma was found to be the most common cause of AUB followed by ovulatory dysfunction (75% and 22% respectively). (Table 3)

RESULTS:-

In present study, 200 patients were included after fulfilling all the inclusion criteria. All these cases were placed in the nine categories of the PALM-COEIN classification. Maximum patients were in the age group of 40-49 yrs. (n=128, 64%) (Table 1.). Most common presenting complaint was heavy menstrual bleeding (n=126, 63%) (Table2). After classifying the patients according to PALM COEIN classification, it was found that leiomyoma was the most common cause of AUB in patients presenting to the Gynaecology indoor (n=75, 37.5%). It was followed by, adenomyosis(n=40, 20%) not yet classified (n= 36, 18%), ovulatory causes (n=22, 11%), endometrial (n=19, 9.5%), iatrogenic (n= 3, 1.5%), polyp (n = 2, 1%) and coagulation abnormalities and malignancy contributing least to the classification (n= 1, 0.5%).(Table3)

CONCLUSION:-

It is anticipated that this system of classification should facilitate multi-institutional investigation into the epidemiology, aetiology, and treatment of women with acute and chronic AUB. The system should also foster meta-analysis of clinical trials that are appropriately designed and reported. It is also recognized that the system will require periodic modification and occasional substantial revision, depending on advances in knowledge and technology, and increasing availability of investigative options across geographic regions.

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