

A CLINICAL STUDY OF ENDOMETRIAL HISTOPATHOLOGY IN AUB AND INCIDENCE OF ENDOMETRIAL POLYP IN AUB

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ABSTRACT

BACKGROUND

Abnormal Uterine Bleeding (AUB) is one of the most common menstrual complaints and a frequent indication for hysterectomy. It can be a manifestation of any number of pathological entities. Causes of AUB ranges from organic pathologies like leiomyoma, polyps, adenomyosis and malignancy to conditions like coagulopathy and drug-induced AUB and aetiologies vary in different age groups. Histopathological evaluation of endometrium is very vital to identify the cause of AUB. The objectives of this study are to, 1. To evaluate the endometrial histopathology in AUB, and 2. To estimate the incidence of endometrial polyp in AUB.

MATERIALS AND METHODS

This is a prospective study carried out on 120 women who presented with AUB. Endometrial samples collected were analysed for their histopathological pattern.

RESULTS

Out of 120 endometrial samples analysed among women of 30-39 years, proliferative endometrium was seen in 43.3% and secretory endometrium in 33.3% and endometrial polyp in 13.3%. In women of 40-49 years, proliferative endometrium in 36.8%, secretory endometrium in 30.9% and disordered proliferative endometrium was seen in 19% of women. The incidence of endometrial polyp was found to be 8.3% in our study.

CONCLUSION

There is an age-specific relation of abnormal endometrial histopathology. Among abnormal endometrial pathology, disordered proliferative endometrium was more common in perimenopausal age group and endometrial polyps in reproductive age group. The results of this study indicate that benign endometrial histopathology is common in AUB suggesting a role for more conservative therapeutic strategies.

KEYWORDS

HMB, PHMB, Endometrial Polyp, PALM-COEIN.

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BACKGROUND

Abnormal Uterine Bleeding (AUB) is one of the commonly encountered gynaecological problem worldwide affecting 30% of women worldwide.¹ Based on the results of systematic evaluation, FIGO designed a pragmatic classification (Palm-Coein classification) and standardised nomenclature for use by clinicians and researchers worldwide. The advantage of this nomenclature is to identify more than one aetiology of AUB in one patient.

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The terminology DUB, which may include more than one causes like ovulatory disorder, coagulopathy and endometrial hyperplasia or carcinoma is no longer considered appropriate. Hence, PALM-COEIN classification includes structural causes like polyps, adenomyosis, leiomyomas, malignancy and hyperplasias on PALM side and non-structural causes like coagulopathy, ovulatory dysfunction, endometrial, iatrogenic and not yet specified causes on COEIN side.²

Clinical evaluation with judicious use of investigative tools is required to arrive at the diagnosis of AUB. It is important to differentiate anovulatory bleeding since it is amenable to medical management and on the other hand recurrent anovulation is a risk factor for endometrial carcinoma. Anovulatory Bleeding (AUB-O) is characterised by infrequent, irregular, unpredictable menstrual bleeding not preceded by premenstrual molimina and unaccompanied by genital tract abnormality. In contrast,



regular heavy cycles is related to anatomical lesion or a bleeding disorder.

Currently, the diagnostic methods that are used are transvaginal ultrasound, diagnostic hysteroscopy and endometrial curettage.

Acute AUB is an episode of heavy bleeding of sufficient quantity to require immediate intervention to prevent further blood loss. It may occur in a case of pre-existing chronic AUB or without such a history. Acute AUB requires immediate intervention. Chronic AUB is defined as bleeding from uterus that has been present for majority of past 6 months that is abnormal in volume, regularity or timing.^{3,4}

Endometrial polyps has been associated with AUB since long time. While majority of polyps are benign, the incidence of atypical or malignant polyp is 0.5-4.7%.

The current study evaluates the endometrial histopathological spectrum in AUB in different age groups and incidence of endometrial polyp in AUB.

MATERIALS AND METHODS

The present study was a prospective study conducted in Department of Obstetrics and Gynaecology at Velammal Medical College Hospital. 120 patients with AUB in the age group of 30-64 years who underwent endometrial curettage were included in the study. Preliminary assessment by history and clinical assessment was done for each patient. Using a 7.5 MHz vaginal probe transducer, uterine anatomy and adnexae were visualised. Endometrial tissue collected by various sampling procedures were sent for histopathological examination. The total tissue section was processed, tissue section was made and examined microscopically by pathologist.

Inclusion Criteria

120 patients with AUB who underwent endometrial curettage procedures in a period of 6 months were included in the study.

Exclusion Criteria

Patients with coagulation disorder, pregnancy-related bleeding, submucous myoma, uterine size >14 weeks were excluded from the study.

DATA ANALYSIS

The collected data were analysed with IBM.SPSS statistics software 23.0 version. To describe about the data descriptive statistics frequency analysis, percentage analysis were used for categorical variables. To find the association in categorical variables chi-square test was used. Those with endometrial HPE of proliferative, secretory were grouped as normal and the rest as abnormal.

RESULTS

The age group of patients ranged from 30 to 64 years. 30 patients were below 40 years. Maximum number of patients were in 40 to 49 years age group (n=68). Mean age of patients was 43.6 years (Figure 1).

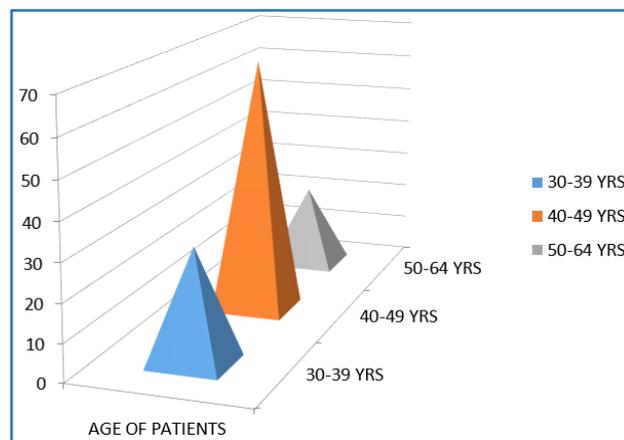


Figure 1. Age Distribution of Patients

The distribution of parity among our patients were as follows. 70.3% (n=85) were para 1 and 2, 26.6 (n=32) were para 3 and 2.5% (n=3) were nulliparous.

Among the various menstrual abnormalities, heavy menstrual bleeding was the most common bleeding abnormality present in 51.6% (n=57) in the entire group as well as 40-49 years age group (Figure 2).

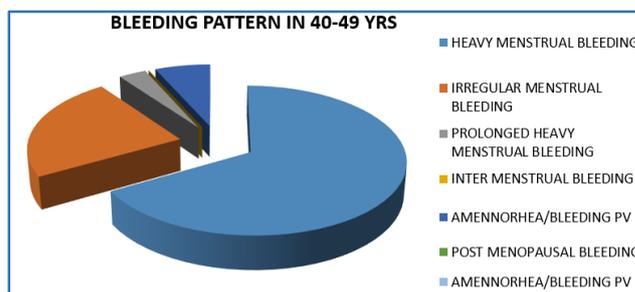


Figure 2. Bleeding Pattern in 40-49 Years Age Group

Abnormal histopathology was found highest in 50-64 yrs. 45.4% (n=12), 27.9% in 40-49 yrs. and least 23.3% in 30-39 yrs. age group (Figure 3).

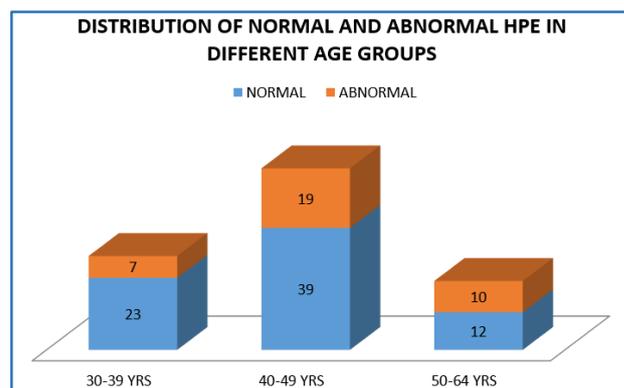


Figure 3. Distribution of Normal and Abnormal HPE in Different Age Groups

In reproductive age group of 30-39 yrs., proliferative endometrium was found in 43.3%, secretory endometrium in 33.3% and endometrial polyp in 13.3% (Figure 4).

Proliferative endometrium was found in 36.8%, secretory endometrium in 30.9%, disordered proliferative in 19.1% and endometrial polyp in 7.4% in women between 40- 49 years (Figure 5).

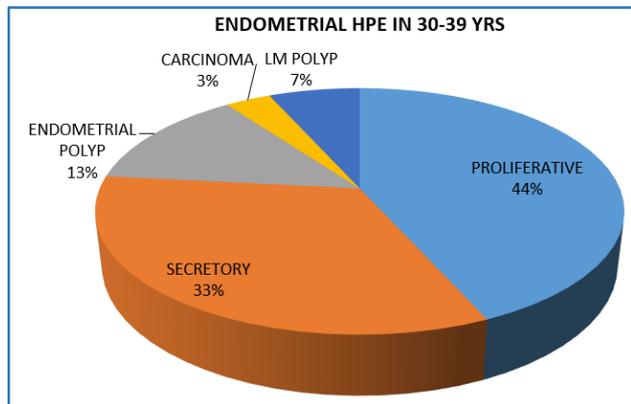


Figure 4. Endometrial HPE in 30-39 Years

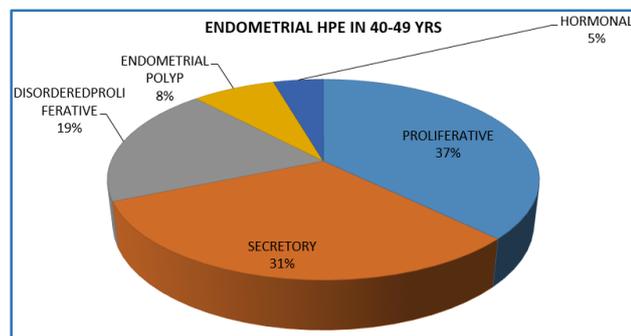


Figure 5. Endometrial HPE in 40-49 Yrs.

In women above 50 years, proliferative endometrium was found in 41% (n=9), secretory endometrium in 9% (n=20), simple hyperplasia in 9% complex hyperplasia with atypia in 9% and carcinoma in 4% (Figure 6).

Out of 120 patients, atrophic endometrium, complex hyperplasia with atypia, endometrial carcinoma was found in 1.7% each. Simple hyperplasia was present in 2.5% of study population (Figure 7).

The incidence of endometrial polyp in our study was 8.3% (n=10) (Figure 8).

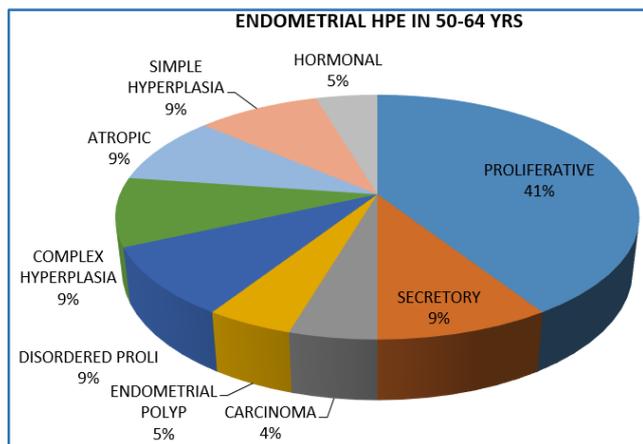


Figure 6. Endometrial HPE in 50-64 Yrs.

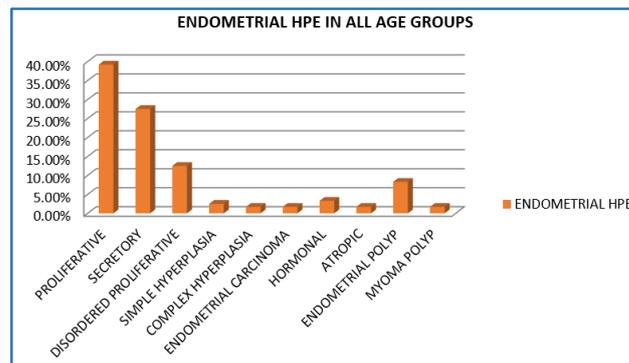


Figure 7. Endometrial Histopathology in All Age Groups

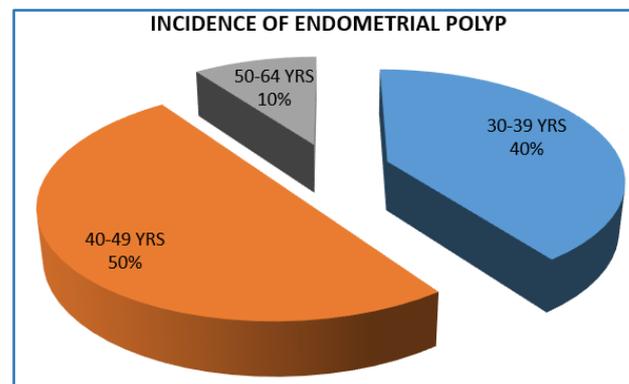


Figure 8. Endometrial Polyp in Different Age Groups

DISCUSSION

AUB is defined as departure from normal menstruation or from a normal menstrual cycle pattern. The FIGO Menstrual Disorder Working Group reviewed a series of recommendations in 2009 and came out with a newer classification and terminology for AUB. Terminologies such as menorrhagia, metrorrhagia were considered to be poorly-defined. DUB was classified under three definable headings; 1. Disorders of endometrial origin. 2. Disorders of hypothalamopituitary ovarian axis. 3. Disorders of haemostasis (coagulopathies).

Heavy Menstrual Bleeding (HMB) is defined as excessive menstrual blood loss, which interferes with the woman's physical, emotional, social and material quality of life that can occur alone or in combination with other symptoms.^{5,6}

Heavy Prolonged Menstrual Bleeding (HPMB) is much less common than HMB and both may have different aetiologies and may respond differently to therapies.

Irregular non-menstrual bleeding comprises of postcoital bleeding and intermenstrual bleeding. Intermenstrual bleeding is defined as irregular episodes of bleeding, often light and short, occurring between otherwise fairly normal menstrual periods. Irregular menstrual bleeding is defined as a range of varying lengths of bleeding-free intervals exceeding 17 days within one 90-day period.

In our study, maximum patients were in 40-50 yrs. group among, which HMB was the most common

symptom. Yusuf et al and Muzaffar et al in their study of endometrium had similar incidence.⁷⁻⁹

The reason for increased incidence in this age group is due to the fact that these patients as they approach menopause, they get intermittently anovulatory cycles due to decline in ovarian follicles and falling estradiol levels.

During normal menstrual cycle, the endometrial glands grow and become more tortuous under estrogenic stimulation in proliferative phase. This is followed by secretory phase characterised by endothelial proliferation and coiling of spiral arterioles.^{10,11} Our study showed that normal histopathology was more common in 30-39 years age group (66.7%) correlating with a study by Abdullah et al.¹² The incidence varies from 28.36% to 53.9% in different studies. There is increased variability of hormonal levels with increasing shortage of ovarian hormones and anovulation in perimenopausal period. Chronic unopposed estrogenic stimulation can lead to endometrial hyperplasia and endometrial carcinoma.

Among women of 40-49 years, disordered proliferative pattern was present in 19% of cases contributing to 68.4% of abnormal histopathology in this age group. This correlates with clinical study of endometrial samples in perimenopausal women by Mutter et al and Doraisamy et al.^{13,14}

The term "disordered proliferative endometrium" has been used in a number of ways and is difficult to define. Disordered proliferative endometrium resembles simple hyperplasia, but the process is focal rather than diffuse. It lies at one end of the spectrum of lesions of endometrium that includes carcinoma at the other end with intervening stages of hyperplasias. It denotes an endometrial appearance that is hyperplastic, but without an increase in endometrial volume.⁹ It refers to a proliferative phase endometrium that does not seem appropriate for any one time in the menstrual cycle, but is not abnormal enough to be considered hyperplastic.

An earlier stage of presentation due to increased health awareness could explain the high incidence in our study. Diagnosing the patients at the earliest stage of this spectrum will be of definitive help to the practicing gynaecologists to prevent disease progression.

In our study, endometrial hyperplasia was seen in 3.2% of study population correlating with a study by Jairajpuri et al.¹⁵ Endometrial carcinoma was found in 1.7% similar to a study by Sarwar et al.¹⁶ The cause of bleeding in atrophic endometritis is thought to be due to local defective haemostatic mechanisms or anatomic vascular variations. The incidence of atrophic endometrium in our study was 1.7% corresponding to other studies 2% by Khare et al.¹⁷

Endometrial and endocervical polyps are epithelial proliferations consisting of a variable vascular, glandular, fibromuscular and connective tissue component. Though often asymptomatic, at least some contribute to the genesis of AUB. Some polyps may have atypical or malignant features.^{18,19} Risk of malignancy in endometrial polyp increases with age and the presence of symptoms.

According to Haimov-Kochman et al, the prevalence of endometrial polyps in AUB is reported to be between 7.8-34.9% depending on population studied correlating with 8.3% of benign endometrial polyps in our study.¹⁹⁻²¹

Management of AUB in acute settings include initial prompt assessment for signs of haemodynamic instability and hypovolaemia followed by stabilisation and evaluation of causes of AUB. The two main objectives of treatment include control of present bleeding followed by reduction of blood loss in subsequent cycles.

Investigations are done based on clinical suspicion to rule out various aetiologies of AUB. Transvaginal ultrasound has a sensitivity of 80% and a specificity of 69% in assessing endometrial thickness and detecting endometrial pathology. Endometrial assessment is required in any women above 40 years with a history of infertility, new onset of heavy irregular bleeding, obesity, polycystic ovaries, tamoxifen therapy, family history of endometrial and colonic cancer and in any women who has no improvement in bleeding following three months of therapy. Though office endometrial sampling detects 67-96% of carcinoma endometrium, hysteroscopic evaluation of endometrial cavity in AUB has a higher detection rate and provides direct visualisation of endometrial cavity and hence considered as an eye in the uterus.²² It is recommended in case of a focal lesion detected in ultrasound.^{22,23} Though, it is an accurate diagnostic tool than endometrial curettage for intrauterine pedunculated pathologies, histopathology is more accurate for endometrial hyperplasias and carcinoma.

Choices for treatment include medical and surgical management and can be tailored according to the patient's underlying pathology, medical conditions and desire for future fertility.

Medical management is considered as first line of therapy in treatment of AUB. The drugs that are commonly used are oral contraceptive pills and progestins. Anti-fibrinolytic agents like tranexamic acid is effective in acute settings. It reduces blood loss by 30-55% in acute AUB. NSAIDs (Non-Steroidal Anti-Inflammatory Drugs) inhibits cyclooxygenase and reduces endometrial prostaglandins thereby improving symptoms of HMB. Combined oral contraceptive pill induces endometrial atrophy and produces 43% reduction in menstrual blood loss. Cyclical progestins are useful when given for 12-14 days of each month. The levonorgestrel intrauterine system releases steady amount of drug daily and is used recently. Both continuous oral progestogens and LNG-IUS are effective in causing regression of endometrial hyperplasia without atypia. GnRH agonists reduces total intrauterine volume by 40-60% and produces clinical improvement, but has limitations like reduction in bone mineral density and hot flushes.

Surgical management of AIB is multimodal. Dilatation and curettage is no longer considered as a treatment of AUB as it has no long-term effect. Endometrial ablation by various mechanisms reduces symptoms in 85% of women and 10% of women will need hysterectomy. Risks of

hysterectomy must be weighed against its benefits. Hysteroscopic polypectomy is the treatment of choice for benign endometrial polyps.

CONCLUSION

There is a various histopathological spectrum in cases of AUB with respect to age. Benign endometrial pathology is quite high in AUB. Increasing age is associated with more progressive lesions such as disordered proliferative endometrium, endometrial hyperplasias and endometrial carcinoma. Endometrial polyp was found in 8.3% of patients. A more conservative approach can be planned based on histopathology in such patients to avoid hysterectomies. Also, a significant number shows underlying organic pathologies indicating the importance of endometrial curettage as a diagnostic procedure.

Abbreviations

Heavy Menstrual Bleeding (HMB), Prolonged Heavy Menstrual Bleeding (PHMB), Irregular Menstrual Bleeding (IMB), Amenorrhoea (AMEN), Postmenopausal Bleeding (PMB) and Intermenstrual Bleeding (INTER).

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