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Original Research Article

Histopathological pattern of endometrial biopsy in abnormal uterine bleeding

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ABSTRACT

Background: Abnormal uterine bleeding is a common complaint in most women of different ages that prompts seeking gynaecologic care. This study aimed to determine the type of endometrial patterns of the different age categories of women who presented as a case of abnormal uterine bleeding.
Methods: This was a retrospective study conducted on 72 patients who were presented with abnormal uterine bleeding and had endometrial biopsy done in our hospital. The data on their age, presenting complaints, and comorbidities of all the women were collected. The patterns of endometrial changes were studied and classified in accordance to the FIGO classification.
Results: Seventy-two women with abnormal uterine bleeding demonstrated a fluctuating pattern of ten endometrial pathologies distributed among five age groups in the range of 31 to 65 years. Maximum number of cases of AUB were noted in the age group of (36-50) years (56 cases, 77.7%). Most common observed histopathological pattern in this study was normal cyclical patterns including proliferative endometrium (29.16%) and secretory endometrium (22.22%).
Conclusions: Histopathological examination of the endometrium shows a clear-cut differentiation between physiological and malignancy changes in the endometrium. Hence, endometrial sampling is considered the golden tool for accurate analysis of the endometrium.

Keywords: Abnormal uterine bleeding, Endometrial biopsy, FIGO classification, Histopathology

INTRODUCTION

Abnormal uterine bleeding (AUB) is a symptom that deviates from the normal menstrual cycle in terms of frequency, volume, and duration of the menstrual flow.[1] Abnormal uterine bleeding is considered one of the most common and challenging problems presenting to the gynecologist; it is responsible for as many as one-third of all outpatient gynecologic visits.[2,3] AUB usually peaks in the 4th-5th decade as the physiologic phenomenon of menopausal transition takes place.[4,5] It can be caused by a wide variety of systemic diseases such as endocrine disorders or drugs. On the other hand, it may be related to pregnancy, anovulation, fibroids, polyps, adenomyosis or neoplasia.[6] Endometrial assessment by endometrial biopsy or curettage is indicated in some of these conditions in females in the perimenopausal and postmenopausal years in order to exclude endometrial hyperplasia or carcinoma. Younger women may also need endometrial sampling if abnormal bleeding does not resolve with medical management.[6] Histological examination of the submitted endometrial tissue remains the standard diagnostic procedure for the assessment of abnormal uterine bleeding. In addition, accurate histopathological diagnosis facilitates the implementation of optimal treatment strategies.[7] Histopathological diagnosis varies according to the age with endometrial hyperplasia and cancer are higher in perimenopausal and postmenopausal women while in younger age groups, changes related to hormonal effects seems to be more common.[6] The aim of this study is to

identify the pattern of histopathological diagnosis encountered in women of various age groups presenting with abnormal uterine bleeding.

A thorough investigation using the PALM-COEIN classification proposed by The International Federation of Gynecology and Obstetrics (FIGO) focuses on causes by structural pathologies [polyps, adenomyosis, leiomyomas, and malignancy or atypical endometrial hyperplasia (PALM)] while the "COEIN" causes are non-structural and are diagnosed by a wider approach of clinical assessment, history, and sometimes laboratory tests (coagulopathies, ovulatory disorders, primary endometrial disorders, Iatrogenic and Not otherwise classified; COEIN).[8]

The present study aimed to establish clinicopathological correlation taking into account the PALM component of FIGO classification.

METHODS

This was a retrospective study conducted among women who came with abnormal uterine bleeding to the gynaecology department of Adesh Medical College and Hospital from October 1, 2021 to September 30, 2022.

Inclusion criteria

Women with AUB above the age of 31 years were included.

Exclusion criteria

AUB due to gestational causes such as abortions, tubal pregnancies and molar pregnancies. Pubertal menorrhagia and post-menopausal bleeding. Obvious cervical pathology like cervical cancer.

Data collection

Relevant clinical data including age, complain of patients, obstetric history, menstrual history and clinical diagnosis were taken from histopathological requisition form. Histopathological diagnosis related record was obtained from histopathological reports. The histopathology reports of endometrial curettings were retrieved from the records of the department of pathology. Since the data was being collected retrospectively from the hospital records, there was no conflict of interest.

Data analysis

Statistical analysis was done after collecting the primary data. Data of histopathological reports of AUB patients were obtained from the laboratory of AMCH and entered into MS excel sheet and analysed by SPSS version 27 and the results were expressed in frequency and percentage and represented in tables and figures wherever necessary.

RESULTS

The study included all women above the age of 31 who presented with AUB and had an endometrial biopsy. The age group of patients was identified between 31-65 years. Seventy-two cases were included and divided into five age groups: 31-35, 36-40, 41-45, 46-50, and above 50. Eleven patients were excluded from the study, 4 presented with postmenopausal bleeding and 7 with endometrial biopsy contained retained product of conception.

Table 1: Age distribution of study population.

Age (years)	N	%
31-35	6	8.3
36-40	18	25
41-45	21	29.1
46-50	17	23.6
>50	10	13.8
Total	72	100.0

The maximum frequency of age group with abnormal uterine bleeding was among women between 41-45 years (29.1%) and the minimum was less than 35 years of age (8.3%). The following table shows the age distribution among the study population (Table 1).

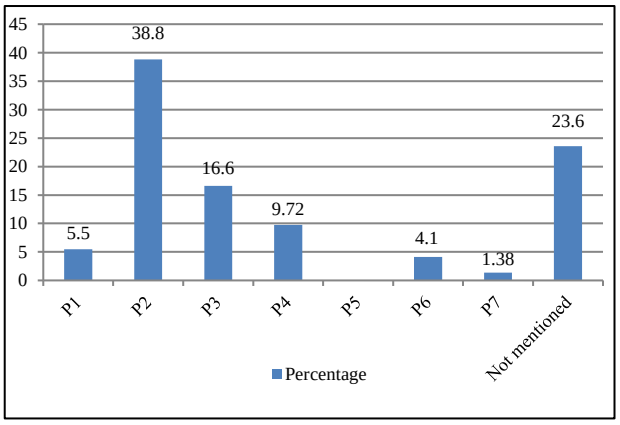

Figure 1: Parity of study population.

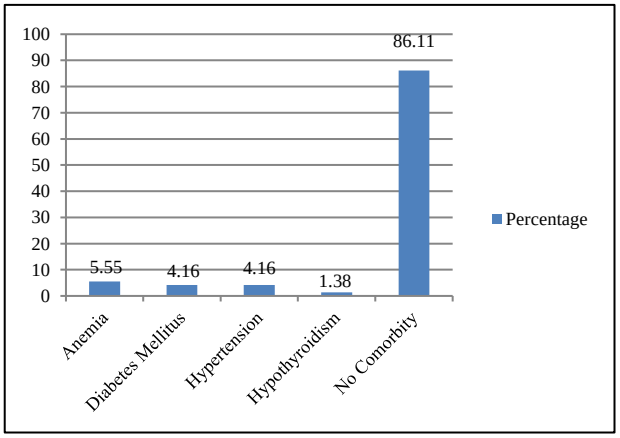

Figure 2: Comorbidities among patients.

With respect to parity, the incidence of abnormal uterine bleeding was maximum among parity 2, which was around 38.8% (Figure 1).

Regarding the comorbidities, around 5.55% of the patients had anemia, 4.16% had diabetes mellitus and hypertension in equal proportion and only 1.38% had hypothyroidism whereas most of the patients, 86.11% had no comorbidity (Figure 2).

Endometrial biopsy of the 72 patients showed a wide spectrum of pathologies in patients with different age groups who presented with AUB. Interestingly, the proliferative endometrium was found to be the most the common pathology with an overall percentage of 29.16% in all age groups, followed by secretory endometrium, 22.22%, and disordered proliferative endometrium, 13.4% (Table 2).

Table 2: The incidence of histopathological findings per each age group.

Pathological finding	N	%	Age groups (years)				
			31-35	36-40	41-45	46-50	>50
Proliferative endometrium	21	29.16	2	6	7	5	1
Secretory endometrium	16	22.22	1	5	4	6	0
Disordered proliferative endometrium	10	13.88	1	0	5	2	2
Atrophic endometrium	8	11.11	0	2	1	1	4
Endometrial hyperplasia without atypia	4	5.55	0	2	1	0	1
Endometrial hyperplasia with atypia	1	1.38	-	-	-	1	-
Endometrial polyp	2	2.77	-	-	1	1	-
Endometritis	0	0	-	-	-	-	-
Endometrial adenocarcinoma	0	0	-	-	-	-	-
Inadequate	5	6.94	0	0	1	2	2
Changes consistent with exogenous hormonal therapy	4	5.55	0	2	2	0	0
Chronic cervitis	1	1.38	-	-	-	1	-
Total	72	100	4	17	22	19	10

Table 3: FIGO classification of AUB.

Causes of abnormal uterine bleeding		N	%
Structural causes	Polps (P)	3	4.16
	Adenomyosis (A)	13	18.05
	Leiomyoma (L)	18	25
	Malignancy and hyperplasia (M)	3	4.16
Non-structural causes	Coagulopathy (C)	0	0.00
	Ovulatory dysfunction (O)	0	0.00
	Endometrial (E)	4	5.55
	Iatrogenic (I)	0	0.00
	Not yet classified (N)	31	43.05

Most of the cases of proliferative and secretory endometrium were noted in age group of (41-45) years and (46-50) years respectively. The next more common pattern observed was disordered proliferative endometrium, out of total 10 cases (13.88%), 5 cases were noted in group of (41-45) years. 2 cases of polyp were seen in patients between 41-50 years of age. All cases of atrophic endometrium (4 cases) and endometrial hyperplasia with atypia (1 case) were noted in elderly patients (>50 years).

According to the PALM-COEIN classification proposed by The International Federation of Gynecology and Obstetrics (FIGO), the structural causes (polyps, adenomyosis, leiomyomas, and malignancy or atypical endometrial hyperplasia) accounted for 51.37% while the non-structural causes accounted for 48.6%.

DISCUSSION

AUB is the most common complaint found among the patients in the gynecology outpatient department. The increased awareness and better accessibility to healthcare facilities also contribute to the increase in cases presenting with AUB. AUB requires thorough and prompt evaluation as it can be a clinical manifestation of underlying fatal diseases like endometrial carcinoma. Although at times the interpretation of an endometrial biopsy is quite challenging, a prompt diagnosis made by correlating the clinical history and histopathological findings can help in

providing the right treatment to the patient. Although 39 patients in their histopathological reports were suggested to go for clinico-radiological correlation. In the present study, we found that women in the perimenopausal age group were the most common to present with AUB. The presenting complaints were variable. The most common histopathological feature was the normal cyclical endometrium including proliferative and secretory phase endometrium. Among the organic lesions, endometrial hyperplasia was the commonest pattern though atypical hyperplasia contributed less. The endometrial polyp was the other common finding. Endometrial carcinomas were found in fewer numbers. Endometrial sampling is an effective diagnostic tool and it needs to be considered in all patients from peri- and post-menopausal age groups with AUB. histopathological examination of the endometrium always shows a clear-cut distinction between physiological changes of endometrium, malignancy, and premalignant states of the endometrium.[9] Hence, endometrial sampling is considered the golden tool for accurate analysis of the endometrium.[10]

The retrospective nature of the study, as well as the relatively small sample size were the major limitations. In particular, the mean age of the study, which lies in the age group 31-50, was the main age group for most of the significant results. Although, with 72 subjects, the results of this study provided insightful information on the characteristics of abnormal uterine bleeding among women of different ages.

CONCLUSION

Histopathological examination of the endometrium shows a clear-cut differentiation between physiological and malignancy changes in the endometrium. Hence, endometrial sampling is considered the golden tool for accurate analysis of the endometrium.

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Ethical approval: The study was approved by the Institutional Ethics Committee

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