ORIGINAL RESEARCH PAPER

Obstetrics & Gynaecology

ENDOMETRIAL HISTOPATHOLOGY PATTERNS AMONG WOMEN WITH ABNORMAL UTERINE BLEEDING IN A TERTIARY CARE HOSPITAL

KEY WORDS: Abnormal Uterine Bleeding; Endometrial patterns; Histopathology.

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ABSTRACT

Background: Menstrual problems remain a challenging condition for women at all ages. Abnormal uterine bleeding (AUB) is defined as bleeding from uterine corpus that is abnormal in volume, regularity and or timing and that has persisted for the majority of the previous six months. AUB can affect people of any age and be either ovulatory or non-ovulatory. Histopathological assessment of endometrial curettages has a 96% sensitivity and 98.3% specificity. Thus, endometrial biopsy sample with a clinico-pathologic correlation may continue to be the gold standard for accurately diagnosing endometrial pathology and its management. **Objectives:** To study the endometrial histology patterns in women among different age groups with abnormal uterine bleeding. **Methods:** A retrospective study was conducted among 185 women with abnormal uterine bleeding from May 2022 to September 2023. Histopathological study of endometrial patterns was studied. The clinical information and investigation reports pertaining to each case were acquired from individual case requisitions. The data was collected and tabulated in Microsoft excel sheet and the percentages were calculated. **Results:** This study included 185 women with abnormal uterine bleeding, distributed into three age groups such as 31-40 years, 41-50 years and 51-60 years of age groups respectively. Most of them (51.35%) belonged to 41-50 years of age group. The Histopathological patterns of endometrium was studied among all the patients, where it showed 100 (54.05%) patients having a proliferative phase endometrium followed by 66 (35.6%) patients having a secretory phase endometrium. Most of them (63%) in this study having proliferative endometrium were in the age group between 41-50 years. **Conclusion:** Based on the present study, abnormal uterine bleeding was high among peri-menopausal women associated with proliferative endometrium histopathology. Endometrial sampling should be considered in peri-menopausal and post-menopausal group. We conclude that, histopathological studies facilitate in diagnosis and managing women with abnormal uterine bleeding.

INTRODUCTION

For women of all ages, cutaneous menstrual problems remain a difficult condition[1]. Abnormal uterine bleeding (AUB) is defined as bleeding from uterine corpus that is abnormal in volume, regularity and or timing and that has persisted for the majority of the previous six months[2]. In India a prevalence of 17.9% is reported[3]. The incidence rises from 6.4% in 30–35 years to 18% among 45–50 years of age. Although it normally has a chronic course, the patient may have hypovolemic shock and heart failure if it becomes acute[4].

A disturbance in the hypothalamo-pituitary-ovarian (HPO) axis is the most common cause of AUB. It results in a drop in progesterone levels and changes the PGE2/PGF2 alpha ratio. Prolonged and severe bleeding is caused by the fibrinolytic enzyme tissue plasminogen activator hyperfunctioning. AUB can affect people of any age and be either ovulatory or non-ovulatory[5]. Abnormal uterine bleeding is anovulatory among 90% of cases and ovulatory in 10% cases[6].

Histopathological assessment of endometrial curettages has a 96% sensitivity and 98.3% specificity[1,2]. Endometrial hyperplasia and endometrial cancer could result from improperly treated anovulatory hemorrhage[7]. Only 50–60% of AUB instances are established for the identification of the bleeding's origin despite thorough clinical evaluation is done[8]. Thus, endometrial biopsy sample along with a clinico-pathologic correlation may continue to be the gold standard for accurately diagnosing endometrial pathology and its management[1].

This research was planned to study the endometrial histology patterns among women with abnormal uterine bleeding.

Objective Of The Study

The main objective of this research was to study the endometrial histology patterns in women among different age groups with abnormal uterine bleeding.

Methodology

A retrospective study was conducted among 185 women with abnormal uterine bleeding who visited the Department of Obstetrics and Gynaecology of Akash institute of medical science and research centre, Devanahalli from May 2022 to September 2023.

The women with abnormal uterine bleeding and those willing for the procedure were included in this study. We excluded women who were pregnant or having an abortion and those refused for histopathological study. Histopathology of endometrial patterns was studied. Endometrial Samples collected through Dilation and Curettage (D & C), Pipelle Biopsy were routinely formalin fixed and processed. Haematoxylin and eosin were used to stain the 5-micron thick sections and were examined for histopathological changes. (Fig 3)

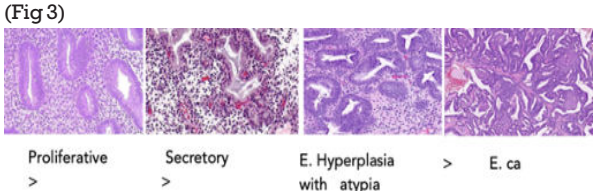


Figure 3: Histopathological patterns of endometrium

The age specific correlation for individual cases was analyzed in this study. The clinical information and investigation reports pertaining to each case were acquired from individual case requisitions submitted to the department of pathology of our institution. The data was collected and tabulated in Microsoft excel sheet and the percentages were calculated for comparison purposes.

RESULTS

This study included 185 women with abnormal uterine bleeding, distributed into three age groups such as 31-40 years, 41-50 years and 51-60 years of age groups respectively. 95 (51.35%) of them belonged to 41-50 years of age group which was the majority in this study followed by 82 (44.32%) belonging to 31-40 years of age group, and 8 (4.32%) of them were attributed to 51-60 years of age group respectively as depicted in *Table 2 & Fig 2*.

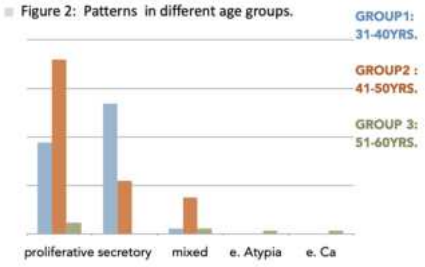


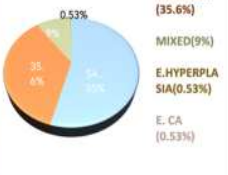
Table 2: Distribution of Abnormal uterine bleeding in different age groups

Histopathological Pattern	GROUP 1 31-40 years Number of Patients (%)	GROUP 2 41-50 years Number of Patients (%)	GROUP 3 51-60 years Number of Patients (%)	Total
Proliferative Endometrium	33 (33%)	63 (63%)	4 (4%)	100
Secretory Endometrium	47 (71.21%)	19 (28.78%)	0 (0%)	66
Mixed Endometrium	2 (11.76%)	13 76.47%)	2 (11.76%)	17
Endometrial hyperplasia with atypia	0 (0%)	0 (0%)	1 (100%)	1
Endometrial Carcinoma	0 (0%)	0 (0%)	1 (100%)	1
Total	82 (44.32%)	95 (51.35%)	8 (4.32%)	185

The Histopathological patterns of endometrium was studied among all the patients. 100 (54.05%) had a proliferative phase endometrium, 66 (35.6%) had secretory phase endometrium, 17 (9.1%) had a mixed endometrium, 1 (0.54%) had endometrial hyperplasia with atypia and 1 (0.54%) had endometrial carcinoma respectively [*Table 1 & Fig 1*].

Table 1 and fig 1: Distribution of histopathology patterns of endometrium.

	no. of cases(185)	Percentage (%)
Proliferative phase endometrium	100	54.05%
Secretory phase endometrium	66	35.6%
Mixed endometrium	17	9.1%
Endometrial hyperplasia with atypia	1	0.54%.
Endometrial carcinoma	1	0.54%



We analysed the women with Abnormal uterine bleeding based on the histopathological patterns distributed among different age groups. Most of them (63%) in this study having proliferative endometrium were in the age group between 41-50 years, whereas 47 of them (71.2%) in the age group of 31-40 years had secretory endometrium. 13 (76.4%) of them having a mixed endometrium belonged to age group of 41-50 years. The one patient who had endometrial carcinoma was aged in the 51-60 years group [*Table 2 & Fig 2*].

DISCUSSION

In gynecologic practice, abnormal uterine bleeding has long been a common complaint. Menorrhagia is thought to be caused by anovulatory cycles that occur during the climacteric phase of menopause, when ovarian follicle counts decrease and estrogen levels fall, resulting in shorter periods[1,2].

In the present study of 185 abnormal uterine bleeding cases, it was observed that the frequency of menstrual irregularity was high among 41-50 years aged women. This was similar when compared with various studies as depicted in Table 3 below. This observation was explained by Doraiswami et al[1] that the anovulatory cycles that occur during the climacteric period of menopause, when ovarian follicle numbers decrease and estradiol levels fall, resulting in shorter cycles that frequently turn intermittently anovulatory.

Table 3: Distribution of Abnormal uterine bleeding in different age groups among various studies

	Present study	SINGH A[10]	B.G.MALATHI ET AL[3]	DORAISWAMI ET AL[1]
Maximum cases in age group	41-50 years	41-50 years	41-50 years	41-50 years

B.G.Malathi et al[3] observed in their study that the adolescent age group <20 years accounted for (3.87%) cases with normal pattern of proliferative and secretory endometrium which was similar to Doraiswami et al[1] study where they observed 1.5% in their cases. However, this finding could not been observed in our study, as we selected the age group of only above 30 years.

Among the endometrial pattern in histopathological study, proliferative pattern was the commonest observed in our study which was 54.05%, followed by secretory pattern which was 35.6%. Various studies have observed proliferative pattern as the commonest which is shown in Table 4.

Table 4: Distribution of Abnormal uterine bleeding according to histopathological pattern of endometrium among various studies

	Present study	SINGH A[10]	B.G.MALATHI ET AL[3]
Proliferative	54.05%	37%	41.54%
Secretory	35.6%	30%	13.38%
Endometrial hyperplasia with atypia	0.54% (51-60 years)	22.2% (>40 years)	34.50%
Endometrial carcinoma	0.54% (51-60 years)	1% (>50 years)	1.40% (41-60 years)

Table 5 shows the comparison of histopathological pattern of endometrium with maximum age distribution of abnormal uterine bleeding cases among different studies. We found similarities with Doraiswami S et al.[1] and other studies where they termed "disordered proliferative endometrium" which has been used in a number of ways and is somewhat difficult to define and also denotes an endometrial appearance that is hyperplastic but without an increase in endometrial volume[11].

Table 5: Comparison of histopathological pattern and age group among different studies

Sl. No.	Study (year)	Maximum age group (in years)	Predominant Pathological pattern of endometrium studied
1.	Doraiswami S et al. (2011)[1]	41-50	Disordered proliferative endometrium
2.	Malukani P et al. (2013)[12]	31-40	Endometrial hyperplasia
3.	Parmer et al. (2013)[13]	30-40	Disordered proliferative endometrium
4.	Gopalan U et al. (Jan 2015-Dec 2016)[14]	40-49	Endometrial hyperplasia

5.	Singh A et al. (Jan 2016)[10]	41-50	Endometrial hyperplasia
6.	Muzaffar M. et al (2005)[15]	41-50	Endometrial hyperplasia
7.	B.G.Malathi et al (2015-16)[3]	41-50	Endometrial hyperplasia
8.	Present study (2022-23)	41-50	Disordered Proliferative endometrium

CONCLUSION

Based on the present study, abnormal uterine bleeding was high among peri-menopausal women associated with proliferative endometrium histopathology. Endometrial sampling should be considered in peri-menopausal and post-menopausal group. We conclude that, endometrial histopathological studies facilitate in diagnosis and managing women with abnormal uterine bleeding.

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