



## STUDY OF HISTOPATHOLOGICAL PATTERN OF ENDOMETRIUM IN ABNORMAL UTERINE BLEEDING

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**ABSTRACT** **Objective:** Any change in frequency, duration or amount of blood flow during or in between menstrual period is called as Abnormal uterine bleeding (AUB). Histopathological evaluation gives a good information for diagnosis of cause of AUB. The aim of study was to determine the prevalence of cause of AUB in various age group. **Materials and methods:** The study was done in hundred cases at Katihar medical college, Katihar (Bihar) from January 2021 to December 2022. The cases were categorized into reproductive, perimenopausal and postmenopausal age group. Endometrial histopathological reports were analyzed. Results: Maximum number of cases were in the age group 31-40 years and minimum were in age group <20 years. Incidence was highest in multiparous women (59%) followed by grand-multiparous (31%) and nulliparous women (10%). The most common symptom in present study was heavy menstrual bleeding (58%) followed by intermenstrual bleeding (18%). The most common histopathological finding in present study was Proliferative phase (44%) and the least common was endometrial carcinoma (1%). **Conclusion:** In this study, the most common histopathological finding in reproductive age group was proliferative phase. In peri-menopausal and postmenopausal age group, Hyperplasia was commonly seen. Rare findings in this study included endometrial Polyp, Atrophic endometrium and Endometrial carcinoma.

**KEYWORDS :** Abnormal uterine bleeding; Endometrium; Histopathology

### INTRODUCTION

Any pattern of uterine bleeding that varies from the pattern seen during a normal menstrual cycle in terms of amount, duration and frequency is considered abnormal. It has a wide range of age-related causes.<sup>[1]</sup>

Dilatation and Curettage has been the standard technique for endometrial sample for a very long time. Dilatation and Curettage additionally permits fractional curettage with distinct endometrial and endocervical tissue sample. Hyperplasia is observed in up to sixteen percent of the postmenopausal patients endure biopsies, while endometrial carcinoma is found in less than ten percent.<sup>[2]</sup>

Abnormal uterine bleeding is most prevalent & problematic disorders presenting to the gynecologist; it accounts for as much as 1/3 of all gynecologic outpatient visits.<sup>[3,4]</sup> The major objective of the clinical assessment of AUB is to make a precise diagnosis in the most expeditious & minimally invasive method possible.<sup>[5]</sup>

### Material and methods

The current study was conducted in the Department of Pathology, Katihar Medical College, Katihar over a time period of 2 years from 2020 to 2022. This study is Hospital based observational study.

In our study, we included all reproductive age patients attending in department of obstetrics and gynecology with AUB and caused solely by endometrial abnormalities. In this study we excluded pregnancy or other related conditions, blood disorders, cervical pathology associated bleeding, pelvic inflammatory disease and intrauterine contraceptive device.

Patients were selected based on clinical details. A total of 100 patients inclusive of endometrial samples were included. The pathology laboratory analyzed the endometrial samples (endometrial curettage & hysterectomy specimen). The gross morphology of specimens were recorded after they were fixed in 10 percent formalin. These bits were stored in fixative & treated in the automatic tissue processor on cassettes. A paraffin tissue block was made, and sections were cut into 3-4 micrometer thickness and stained with hematoxylin and eosin. The results of a thorough histological investigation were recorded. The data was analyzed statistically.

### Results

In this study patients age ranged from 18 to 65 years. Maximum number of cases were in the age group 31-40 years and minimum were in age group <20 years. Incidence was highest in

multiparous women followed by grand-multiparous and nulliparous women.

**TABLE – 1 Relationship of AUB with parity**

AUB with Parity	Number of Cases	Percentage
Nulliparous	10	10
Multiparous (1-3)	59	59
Grand-multiparous (>3)	31	31
Total	100	100

The most common symptom in present study was heavy menstrual bleeding followed by intermenstrual bleeding.

**TABLE 2 Distribution of bleeding patterns**

Bleeding Patterns	Number of Cases
Frequent Menstrual Bleeding (Polymenorrhagia)	6
Heavy & Prolonged Bleeding (Menometrorrhagia)	8
Heavy Menstrual Bleeding (Menorrhagia)	58
Intermenstrual Bleeding (Metrorrhagia)	18
Oligomenorrhea	3
Post Menopausal Bleeding	7
Grand Total	100

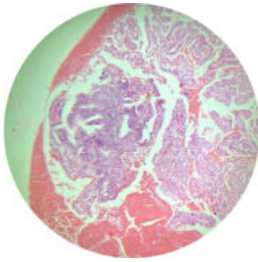
The most common histopathological finding in present study was Proliferative phase followed by secretory phase, Endometrial Hyperplasia. Least common findings were endometrial polyp, atrophic endometrium and endometrial carcinoma.

**TABLE – 3**

Histopathological pattern	Groups			Total
	Reproductive	Perimenopausal	Postmenopausal	
Proliferative phase	33	8	3	44
Endometrial hyperplasia	1	9	4	14
Secretory phase	15	6	2	23
Chronic endometritis	2	4	1	7
Endometrial polyp	1	1	0	2

Disordered proliferative endometrium	0	6	2	8
Atrophic endometritis	0	0	1	1
Endometrial carcinoma	0	0	1	1
Total	52	34	14	100

Histopathological findings in various age groups. In reproductive age group, proliferative endometrium; In perimenopausal age group; Hyperplasia and in postmenopausal age group, Hyperplasia was the most common histopathological finding. The most common histopathological finding in patients who had presented with heavy menstrual bleeding was proliferative phase followed by secretory phase. The most common histopathological finding in patients who had presented with intermenstrual bleeding is proliferative phase followed by Hyperplasia.



**Figure 1: well differentiated endometrial carcinoma (100x)**

### Discussion

It is known that abnormal uterine bleeding can have a variety of physiological, pathological, or pharmacological reasons. An adequate history,<sup>[6]</sup> physical examination, as well as laboratory tests, including imaging and endometrial sampling<sup>[7]</sup> are required for the evaluation of AUB. The Endometrial sampling is a procedure that evaluates the endometrium with great sensitivity.<sup>[7]</sup>

In the present study the highest incidence of AUB was noted in age group 31-40 years which is in concordance with results of Anusuya Das<sup>[7]</sup> and Bhattacharjee<sup>[8]</sup> Doraiswami Saraswathi<sup>[9]</sup> Indu Rajgopal<sup>[6]</sup> reported maximum incidence in age group 41-50 years.

In this study the highest incidence was seen in multiparous women (59%), which is in concordance with results of studies by Sadia K<sup>[10]</sup> (54%), Pradeep K<sup>[11]</sup> (56%), Pillai<sup>[12]</sup> (87%). The lowest incidence was seen in nulliparous women which is in concordance with the results of Sadia K<sup>[10]</sup> (5.4%).

In the present study, heavy menstrual bleeding was the commonest type of bleeding (58%) and oligomenorrhea was least type of bleeding (3%). Study by Pradeep K<sup>[11]</sup> showed heavy menstrual bleeding followed by intermenstrual bleeding, heavy and prolonged bleeding, frequent menstrual bleeding and oligomenorrhoea in that order.

In our investigation, the length of the menstrual cycle, patient age, the start date of the most recent period, and the usage of iatrogenic hormones were all taken into consideration when determining the endometrial histopathologic pattern<sup>[6]</sup>. Normal cyclic endometrium was the most prevalent endometrial histopathologic pattern seen.

### Conclusion

The study of the endometrium in AUB revealed a variety of structural & functional reasons that emerge as distinct endometrial histopathological abnormalities. Consequently, the majority of AUB causes exhibit an age preference.

Histopathological findings of endometrial samples ranged from normal endometrial cycles to malignancy. In this study, the most common histopathological finding in reproductive age group was proliferative phase. In peri-menopausal and postmenopausal age group, Hyperplasia was commonly seen. Rare findings in this study included endometrial Polyp, Atrophic endometrium and Endometrial carcinoma.

The Endometrial examination provides important etiological

information in AUB when interpret in relation to age, hence early diagnosis and guiding proper management.

### Financial support and sponsorship

Nil

### Conflicts of interest

There are no conflicts of interest

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