

# Histopathological Correlation of Abnormal Uterine Bleeding

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## ABSTRACT

**Background:** Abnormal uterine bleeding (AUB) is defined as changes occurring in the frequency of menstruation, duration of flow or amount of blood loss. This is a study carried out to evaluate the patterns of endometrial histological findings in woman with AUB. Histopathological findings are absolutely essential for the workup and management of AUB patients. **Materials and Methods:** This is a retrospective study carried out on the endometrial samples collected in the Department of Obstetrics and Gynaecology at Mahatma Gandhi Memorial Government Hospital attached to K.A.P Viswanatham Government Medical College, Trichy, during 1 year period from November 2017 to October 2018. **Inclusion Criteria:** Patients attending the gynaecology OPD and admitted at gynaecology ward in MGMGH with a complaint of AUB were included in the study. **Exclusion Criteria:** The following criteria were excluded from the study: (1) AUB due to gestational causes such as abortion, tubal pregnancy, and gestational trophoblastic diseases, (2) hormone replacement therapy within the past 6 months, and (3) obvious cervical pathology such as cancer cervix. **Results:** Normal cyclical endometrium was found to be the most common finding. Proliferative endometrium was seen in 56% of cases and secretory endometrium in 33% of cases. Maximum number of cases of AUB were seen in the age group of 41–50 years (194 cases, i.e., 48%). Incidence of endometrial carcinoma is common in the age group of 50–60 years (6 cases). **Conclusion:** Histopathological examination is the gold standard investigation for patients presenting with AUB. Benign pathologies can be treated with hormonal therapy or conservative surgical modalities which greatly reduce the need for hysterectomy.

**Key words:** Abnormal uterine bleeding, dysfunctional uterine bleeding, histopathology

## INTRODUCTION

Abnormal uterine bleeding (AUB) is defined as any deviation in terms of cycle, duration of bleeding, amount of bleeding, or combination of all.

AUB is the most common complaint that reproductive-age women bring to their gynaecologist. Dysfunctional uterine bleeding is defined as abnormal bleeding from the uterus, unassociated with other structural and functional causes. It can occur any time between menarche and menopause, in anovulatory and ovulatory cycles.

Management of AUB is not complete without tissue diagnosis, especially in perimenopausal and postmenopausal women.

Patients with a history of anovulation, obesity, hypertension, diabetes, and exogenous oestrogen use are at increased risk for hyperplasia and adenocarcinoma.<sup>[1]</sup>

Adenocarcinoma of endometrium is often preceded by endometrial hyperplasia.<sup>[2]</sup> Hence, early accurate diagnosis and proper treatment of endometrial hyperplasia are essential to prevent endometrial carcinoma.

## MATERIALS AND METHODS

This study is done on women with a complaint of AUB in any age group attending the gynaecology OPD at MGMGH attached to KAPV Medical College during the period of November 2017–October 2018.

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**Inclusion criteria**

Women with AUB feature in all age groups attending gynaecology OPD were included in the study.

**Exclusion criteria**

The following criteria were excluded from the study:

1. AUB due to gestational causes such as abortions, tubal pregnancies, and molar pregnancies.
2. Hormone therapy within the past 6 months.
3. Obvious cervical pathology like cervical cancer.

The following data were collected:

1. Different types of histopathological findings in endometrial biopsy
2. Age group wise occurrence of AUB
3. Various causes of AUB
4. Parity and age-related occurrence of endometrial carcinoma.

**Methods**

Endometrial samples were obtained by biopsy, dilatation and curettage, fractional curettage, and pipelle sampling done at OP department and operative theatre.

**RESULTS**

Normal cyclical endometrium was found to be the most common pattern in the histopathological examination of presenting cases with proliferative endometrium in 56% (227) and secretory endometrium in 33% (135). This was followed in frequency by atrophic endometrium 3.5% (14), endometrial adenocarcinoma 2.7% (11), endometrial hyperplasia 1.2% (5), cystoglandular hyperplasia 0.9% (4), inflammatory endometrium 0.7% (3), adenomatous polyp 0.5% (2), and disorderly proliferative endometrium 0.5% (2). Histopathological examination was extremely useful in differentiating the different types of endometrial patterns [Table 1 and Figure 2].

The age group of patients in this study ranged from 20 to 65 years. Maximum numbers of cases were in the age group of 41–50 years of 194 cases (48%). This was followed by 98 cases (24%) in 31–40 years group, 63 cases (15%) in 51–60 years age group, 38 cases (9.4%) in 21–30 years age group, and 10 cases (2.4%) in >60 years age group. Age-wise distribution of cases is clearly shown in Table 2 and Figure 3.

Most of the patients were multipara 80% (323), followed by primipara 10% (40), nullipara 3.5% (14), and grand multipara 6.5% (26). Parity-wise distribution is shown in Table 3.

In this study, dysfunctional uterine bleeding 61% (244) was found to be the most common cause of AUB, and this was followed by fibroid 24% (95), postmenopausal bleeding (PMB) 9.7% (39), carcinoma endometrium 3.2% (13), pelvic inflammatory disease 2.2% (9), anovulatory bleeding

**Table 1: Histopathological findings in AUB**

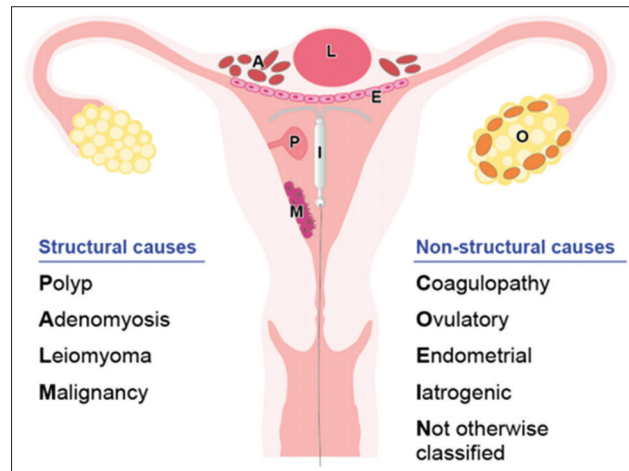
Findings	Number of cases (%)
Proliferative endometrium	227 (56)
Secretory endometrium	135 (34)
Atrophic endometrium	14 (3.5)
Cystic glandular hyperplasia	4 (0.9)
Endometrial hyperplasia	5 (1.2)
Adenomatous polyp	2 (0.5)
Inflammatory endometrium	3 (0.7)
Disorderly proliferative endometrium	2 (0.5)
Endometrial adenocarcinoma	11 (2.7)
Total	403 (100)

AUB: Abnormal uterine bleeding

**Table 2: Age distribution in AUB**

Age group (year)	Number of cases (%)
20–30	38 (9.4)
31–40	98 (24)
41–50	194 (48)
51–60	63 (15)
>60	10 (2.4)
Total	403 (100)

AUB: Abnormal uterine bleeding

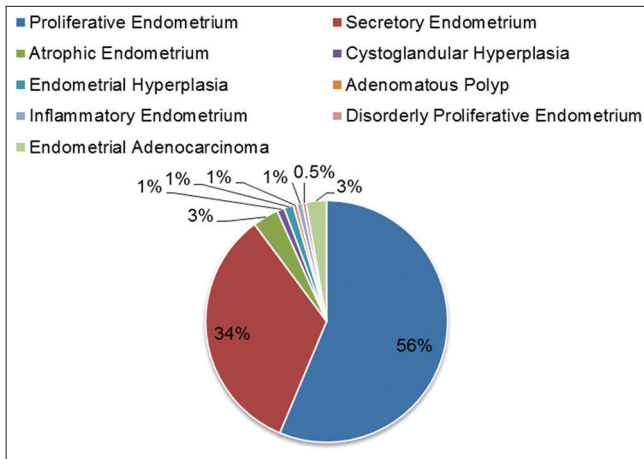


**Figure 1: FIGO classification of causes of abnormal uterine bleeding palm-coein**

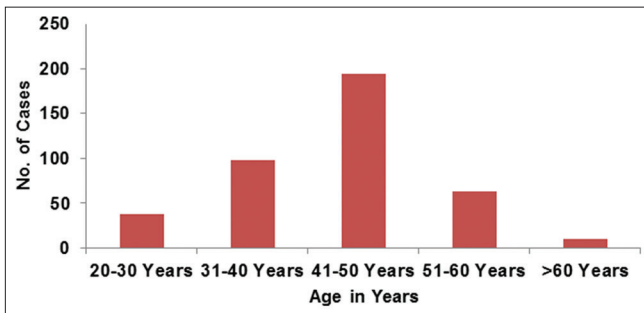
0.4% (2), and adenomyosis 0.2% (1). Distribution of patients based on the causes of AUB [Figure 1] is shown in Table 4 and Figure 4.

**DISCUSSION**

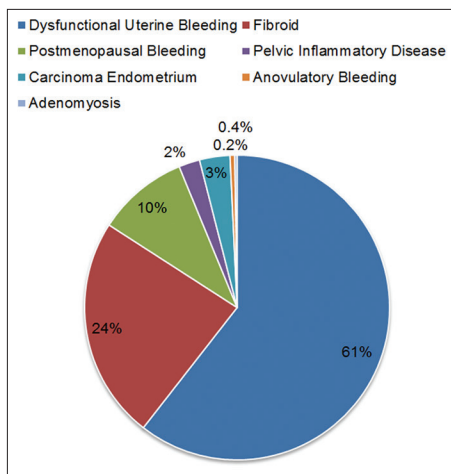
From the present study, it was found that carcinoma endometrium commonly occurred in the age group 51–60 years



**Figure 2:** Histopathological findings in abnormal uterine bleeding



**Figure 3:** Age distribution in abnormal uterine bleeding



**Figure 4:** Distribution of cases based on causes of abnormal uterine bleeding

(6 cases), and also of the 13 endometrial carcinoma cases, 6 were found to be nulligravida. From the study, it is evident that AUB commonly occurred in the age group of 41–50 years that is the perimenopausal age group. In the perimenopausal age group, there is a depletion of antral follicle count in ovary leading to erratic folliculo genesis and frequent anovulation and consequent AUB.<sup>[2]</sup>

**Table 3:** Distribution of cases based on parity

Parity type	Number of cases (%)
Multipara	323 (80)
Primipara	40 (10)
Nullipara	14 (3.5)
Grand multipara	26 (6.5)
Total	403 (100)

**Table 4:** Distribution of cases based on the causes of AUB

Causes	Number of cases (%)
Dysfunctional uterine bleeding	244 (61)
Fibroid	95 (24)
PMB	39 (9.7)
Pelvic inflammatory disease	9 (2.2)
Carcinoma endometrium	13 (3.2)
Anovulatory bleeding	2 (0.4)
Adenomyosis	1 (0.2)
Total	403 (100)

AUB: Abnormal uterine bleeding, PMB: Postmenopausal bleeding

PMB is bleeding occurring in a menopausal women at least 1 year after cessation of menstrual cycles.<sup>[3]</sup> In this study, PMB was found in 39 patients (9.7%). Of the PMB group, most of the histopathological finding was atrophic endometrium (14 patients).

AUB significantly affects the quality of life of otherwise healthy women with different symptoms such as menorrhagia, polymenorrhea, and intermenstrual bleeding. Endometrial sampling is a safe and easy procedure and is the most common modality for the diagnosis of endometrial pathologies. The most common age group presenting with AUB in this study was 41–50 years. Other studies made by Doraisami *et al.*, Vaidya *et al.*, Bolde *et al.*, and Jairajpuri *et al.*<sup>[4-7]</sup> also found that 41–50 years were the most common age group presenting with AUB.

In our study, most of the patients were in multiparous group; other studies also reported a higher incidence of AUB with increase in parity.<sup>[8-10]</sup>

In the histopathological findings, proliferate and secretory phase endometrium was observed in 56% and 33% of the patients. Other studies also reported similar high incidence of normal cyclical endometrium.<sup>[6,11]</sup>

Disordered proliferative pattern lies at one end of the spectrum of proliferative lesions of the endometrium that includes carcinoma at the other end with intervening stages of hyperplasia. Endometrial hyperplasia is a precursor of

endometrial cancer. It is more commonly seen during the perimenopausal period. Endometrial carcinoma can occur as a result of excess oestrogenic stimulation.

## CONCLUSION

Excessive menstrual blood loss is a common reason for women to seek medical help and leads to large demands in health resources. Histopathological examination of endometrial biopsy is a major diagnostic tool in the evaluation of AUB, and a specific diagnosis could help the clinician to plan therapy for the successful management of AUB. Benign lesions or no significant pathology was seen in most patients which can be managed by hormonal therapy or conservative surgical modalities which alleviates the need for hysterectomy. Anovulatory bleeding was common, especially in premenopausal women. Malignancy, in particular, was common in patients over 40 years of age.

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