

# Histopathological Pattern of Endometrial Biopsies in Women with Abnormal Uterine Bleeding in a Tertiary Care Hospital

Shagufta Fatema<sup>1</sup>, Shrikrishna Chavan<sup>1</sup>, Bhakti Kalyankar<sup>2</sup>, Sanjay Pagare<sup>3</sup>, Jyoti Kodgire<sup>1</sup>, Narendra Patil<sup>1</sup>, Archana Rathod<sup>4</sup>

<sup>1</sup>Assistant Professor, Department of Gynecological Oncology, Government Medical College Cancer Hospital, Aurangabad, Maharashtra, India, <sup>2</sup>Professor, Department of Gynecological Oncology, Government Medical College Cancer Hospital, Aurangabad, Maharashtra, India, <sup>3</sup>Associate Professor, Department of Gynecological Oncology, Government Medical College Cancer Hospital, Aurangabad, Maharashtra, India, <sup>4</sup>Professor and Head, Department of Gynecological Oncology, Government Medical College Cancer Hospital, Aurangabad, Maharashtra, India

## Abstract

**Background:** Abnormal uterine bleeding (AUB) is very common gynecological problem for which histopathological examination of the endometrium is gold standard to confirm the exact nature of the lesion and rule out malignancy. The objective of this study was to study histopathological finding and associated factor to rule out malignancy in tertiary care center.

**Materials and Methods:** The study is retrospective study carried out in the Department of Gynecological Oncology of Government Medical College Cancer Hospital in Maharashtra. 130 sample of endometrial biopsies study over a period of 1 year in Government Medical College cancer hospital Aurangabad Maharashtra.

**Results:** The peak age group observed in the age group 41–50 years. The most common histopathological pattern is endometrial cancer of different types. 21 cases shows proliferative endometrium. 28 cases shows endometrial hyperplasia without atypical.

**Conclusion:** Although a regular cyclical pattern is observed commonly, endometrial sampling should be considered in peri- and post-menopausal age group wherein incidence of endometrial hyperplasia and endometrial cancer is more common.

**Key words:** Abnormal uterine bleeding, Biopsy, Postmenopausal bleeding

## INTRODUCTION

Abnormal uterine bleeding (AUB) is the most common health issue seen in women of all age groups. AUB is defined as any bleeding pattern that differs in frequency, duration, and amount from a pattern observed during normal menstrual cycles or menopause. Bleeding is said to be abnormal when the pattern is irregular, of abnormal duration (7 days), or of abnormal amount (>80 mL/menses). AUB is the major gynecological problem responsible for as many as one-third of all outpatient gynecological visits. It has varied presentations such as heavy menstrual bleeding,

frequent cycles, irregular cycles, post-coital bleeding, or postmenopausal bleeding (PMB). It affects women of every age group from adolescence to menopause. It reflects the underlying pathology as simple as hormonal imbalance or carcinoma requiring aggressive treatment. AUB has a significant effect on the quality of life of women.<sup>[1]</sup> AUB is due to several factors deranging homeostasis such as hormonal imbalances, infections, structural lesions, and malignancy. Based on these possible underlying etiologies, the International Federation of Gynecology and Obstetrics in 2011 devised a classification named PALM-COEIN for the etiology of AUB. PALM accounts for structural features such as polyps, adenomyosis, leiomyoma, and malignancy. COEIN addresses non-structural causes such as coagulation defects, ovulatory dysfunction, endometrial causes, iatrogenic causes, and non-classified ones.<sup>[2]</sup> Other studies reported endometrial hyperplasia as the most common morphological pattern encountered as well as a good number of endometritis cases, though it was not

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**Corresponding Author:** Dr. Archana Rathod, Department Gynecological Oncology, Government Medical College and Cancer Hospital, Aurangabad, Maharashtra, India.

said if endometrial culture was carried out in these cases. Endometrial hyperplasia which is an intraepithelial non-neoplastic proliferative lesion was said to peak around the perimenopausal and menopausal period with variable incidence in other studies. The causes of AUB vary with age. In the reproductive age group, it is most commonly due to hormonal imbalance while in the perimenopausal and menopausal women, AUB is generally due to hyperplasia and malignancies.<sup>[3]</sup> Significant mortality or morbidity can occur if endometrial hyperplasia is untreated with progression to malignancy.<sup>[4]</sup> Endometrial biopsy is the gold standard method for distinguishing normal endometrium from pathological endometrium. Endometrial biopsy, dilation and curettage (D&C), and hysteroscopy are the most common endometrial sampling methods.<sup>[5]</sup> The D&C is the gold standard in diagnosing AUB; however, over years, it has been replaced by Pipelle's endometrial biopsy as it is a safe and simple outpatient diagnostic procedure. Evaluation of endometrial biopsies helps not only to identify the cause of AUB but also to provide an appropriate treatment, thereby reducing the need for complications associated with hysterectomies.<sup>[6]</sup> The aim of this study is to determine the spectrum of endometrial pathologies in patients of different age groups presenting with AUB.

**MATERIALS AND METHODS**

This was a prospective study on histopathology of endometrium in patients presenting with AUB, undertaken in the Department of Gynecological Oncology and Department of Pathology of Government Medical College Cancer Hospital, Aurangabad. Total duration of study was 1 years. Material of the study was endometrial tissue of the 130 cases of AUB collected by dilatation and curettage and sent for histopathological study to the department of pathology. The endometrial tissue was fixed in 10% formalin and the entire tissue was taken for routine processing. And then, 3–4 μm thickness sections from paraffin blocks were stained with hematoxylin and eosin (H and E) and studied microscopically. Microscopic examination was done by a team of pathologist and a second opinion was taken to reduce observer's bias.

**Inclusion Criteria**

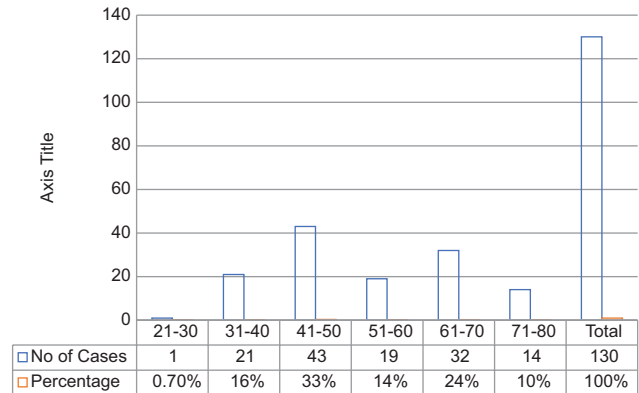
All women who are coming to Gynecological Oncology opd with complaint of AUB and PMB were included in the study.

**Exclusion Criteria**

Patients presenting with AUB due to genital tract infections, systemic causes, and other lesions were excluded from the study.

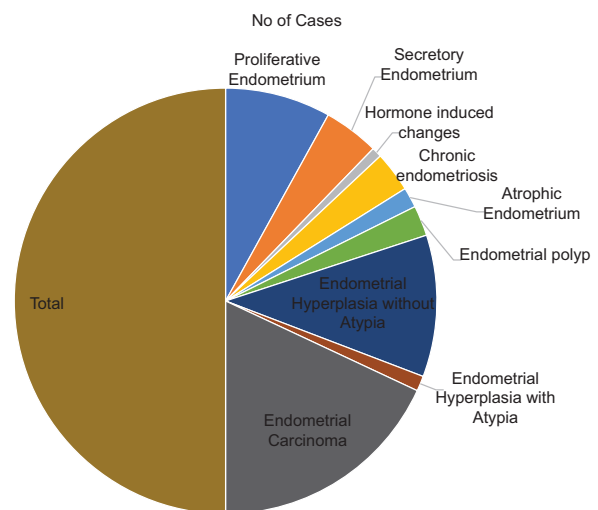
**Table 1: Age-wise distribution of endometrial samplings in AUB**

Age	Number of cases	Percentage
21–30	01	0.7
31–40	21	16
41–50	43	33
51–60	19	14
61–70	32	24
71–80	14	10
Total	130	100



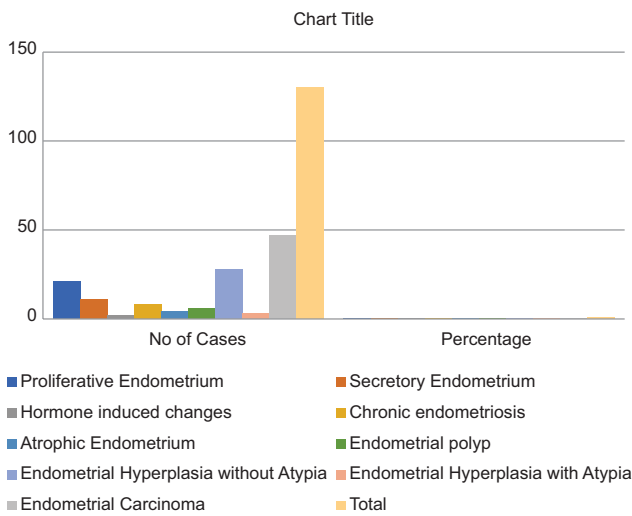
**Table 2: Distribution of histomorphological pattern of endometrium**

Histomorphological pattern	Number of cases	Percentage
Proliferative endometrium	21	16.15
Secretory endometrium	11	8.46
Hormone-induced changes	2	1.53
Chronic endometriosis	8	6.1
Atrophic endometrium	4	3.07
Endometrial polyp	6	4.6
Endometrial hyperplasia without atypia	28	21.5
Endometrial hyperplasia with atypia	3	2.3
Endometrial carcinoma	47	36.1
Total	130	100



**Table 3: Age wise distribution of histomorphological patterns of endometrium**

Histomorphological pattern	Reproductive age (%)	Perimenopausal age (%)	Post-menopausal age (%)
Proliferative endometrium	4 (3.07)	16 (12.3)	4 (3.07)
Secretory endometrium	3 (2.3)	5 (3.8)	3 (2.3)
Hormone-induced changes	1 (0.7)	1 (0.7)	
Chronic endometriosis	2 (1.53)		6 (4.61)
Atrophic endometrium	1 (0.7)		3 (2.3)
Endometrial polyp	3 (2.3)	7 (5.38)	3 (2.3)
Endometrial hyperplasia without atypia	3 (2.3)	5 (3.8)	10 (7.69)
Endometrial hyperplasia with atypia		1 (0.7)	6 (4.61)
Endometrial carcinoma	5 (3.8)	8 (6.1)	30 (23.07)
Total (130)	22 (16.92)	43 (33.07)	65 (50)



**RESULTS**

In this study, a total of 130 endometrial biopsies done in patients with AUB sent for histopathological examination findings were analyzed. Based on the age of the patients who underwent endometrial sampling, data were categorized into three groups: Reproductive, perimenopausal, and post-menopausal. The peak incidence is seen in age group of 41–50 years (33%) [Table 1]. The predominant histomorphological pattern observed is endometrial cancer (36.1%), followed by endometrial hyperplasia (21%) and the least common pattern is hormone-induced changechan (1.5%) [Table 2]. The endometrial sample is grouped in to reproductive, perimenopausal, and postmenopausal group based on the age of the patient and correlated with endometrial patterns [Table 3-6].

**DISCUSSION**

AUB is the most frequently presenting complaint among gynecology outpatient and endometrial samplings from these cases have been routinely received in histopathology. It is very important in PMB to rule out the malignancy as the cancer risk is increasing day by day. The endometrial

**Table 4: Age wise distribution**

S. No.	Authors	Year	Age in year (%)
1	Sameen <i>et al.</i>	2022	36–45 (51.8)
2	Prathipaa <i>et al.</i>	2020	41–50 (42.1)
3	Ashi <i>et al.</i>	2022	41–50 (71.1)
4	Manjari <i>et al.</i>	2023	41–50 (36)
5	Present study	2023	41–50 (33)

**Table 5: Distribution of histomorphological pattern of endometrium**

S. No.	Authors	Year	Histopathological pattern
1	Sharma <i>et al.</i>	2019	Secretory Endometrium (43%)
2	Ashi <i>et al.</i>	2022	Proliferative endometrium (48%)
3	Gupta <i>et al.</i>	2021	Proliferative endometrium (46%)
4	Prathipaa <i>et al.</i>	2020	Proliferative endometrium (56%)
5	Present study	2024	Endometrial Carcinoma (36%)

**Table 6: Age wise distribution of histomorphological patterns of endometrium**

S. No.	Authors	Year	Age with endometrial patterns
1	Gupta <i>et al.</i>	2021	Proliferative endometrium (reproductive age 64%)
2	Sharma <i>et al.</i>	2019	Secretory Endometrium (reproductive age 49%)
3	Ashi <i>et al.</i>	2022	Proliferative endometrium (perimenopausal age 34%)
4	Manjari <i>et al.</i>	2023	Proliferative endometrium (perimenopausal age 26%)
5	Present study	2024	Endometrial cancer (postmenopausal age 30%)

lesion that necessitates endometrial sampling has wide histopathological spectrum depending on age.

A detailed analysis of the different endometrial patterns was done in this study taking into account various parameters such as age, date of onset of the last menstrual period, duration of the cycle, and use of any medications. The incidence of AUB was found to be the highest among the perimenopausal age group (41–50 years, 33%) in this

study same age group, that is, 41–50 year in Parathipaa *et al.*, Ashi *et al.*, and Manjari *et al.* The women in this age group were in their climacteric, and during this period, there is a decline in estradiol levels and number of ovarian follicles resulting in anovulatory cycles.

In PMB pv, it is very important to rule out the endometrium cancer. The histopathological reporting of endometrium is highly subjective and great challenge due to its dynamics cyclical changes and spectrum of histomorphological pattern in response to hormone.

In Sharma *et al.* study, most common histopathological pattern is secretory endometrium, that is, 43%. In Ashi *et al.* study, proliferative endometrium 48% is the common pattern seen. In Gupta *et al.* and Prathipaa *et al.* study, both show proliferative endometrium 46% and 56%, respectively. However, in over study, endometrium cancer is common 36%, critical important to diagnose endometrial hyperplasia, and the precursor of endometrial cancer.

Most common histopathological pattern observed in Sharma *et al.* is secretory endometrium which is common in reproductive age group 49%, whereas Gupta *et al.* study common histopathological pattern is proliferative endometrium in reproductive age group 64%. In Ashi *et al.* and Manjari *et al.* study, proliferative endometrium pattern is common in perimenopausal age group. In the present study, endometrial cancer is 30% in postmenopausal age group. The overall risk of progression of endometrial hyperplasia to malignancy is 5–10%.<sup>[7]</sup> Hence, it is important to rule out PMB pv or spotting pv of endometrial cancer. It is important to diagnose DPE at an early stage to prevent the disease progression.<sup>[8]</sup> Simple hyperplasia without atypia, complex hyperplasia without atypia, simple hyperplasia with atypia, and complex hyperplasia with atypia have variable progression risks of 1%, 3%, 8%, and 29%, respectively, to malignancy.<sup>[7]</sup> In our study we found 36 % endometrial cancer in aub pts as compared to other study, which is

higher than other studies as our hospital is tertiary dedicated cancer institute of state of Maharashtra.

## CONCLUSION

AUB significantly affects the quality life of women and results in anemia. Endometrial sampling should be considered in perimenopausal and postmenopausal age group and in reproductive age group not responding to medical treatment. Hence, histopathological examination plays a critical role in early diagnosis of endometrial pathology and to provide appropriate gynecological management.

The endometrial lesions vary according to the patient's age. It is especially indicated in women over the age of 35 years for early detection of pre-neoplastic lesions and malignancies so that better treatment modalities can be offered.

## REFERENCES

1. Maybin JA, Critchley HO. Menstrual physiology: Implications for endometrial pathology and beyond. *Hum Reprod Update* 2015;21:748-61.
2. Mishra D, Sultan S. FIGO's PALM-COEIN classification of abnormal uterine bleeding: A clinico-histopathological correlation in Indian setting. *J Obstet Gynaecol India* 2017;67:119-25.
3. Puneet K, Anureet K, Anil Kumar S, Harpreet S. A two year histopathological study of endometrial biopsies in a teaching hospital in Northern India. *Ind J Path Oncol* 2016;3:508-19.
4. Tiwari A, Kaur N, Jain S, Rai R, Jain SK. Histopathological study of endometrial biopsy specimens for abnormal uterine bleeding. *J Lumbini Med Coll* 2016;4:72-6.
5. Günakan E, Atak Z, Albayrak M, Kurban Y, Şimşek GG. Endometrial histopathology results and evaluation of endometrial cancer risk in geriatric women. *Prz Menopauzalny* 2018;17:18-21.
6. Mutakha GS, Mwaliko E, Kirwa P. Clinical bleeding patterns and management techniques of abnormal uterine bleeding at a teaching and referral hospital in Western Kenya. *PLoS One* 2020;15:e0243166.
7. Sajitha K, Padma SK, Shetty KJ, Kishan Prasad HL, Permi HS, Hegde P. Study of histopathological patterns of endometrium in abnormal uterine bleeding. *CHRISMED J Health Res* 2014;1:76-81.
8. Prabha G, Murugesan M. Study of histomorphological patterns of abnormal uterine bleeding on endometrial biopsies in a tertiary care center. *J Dent Med Sci* 2019;18:22-4.

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