

# Histopathological Study of Endometrial Biopsies in Women Presenting with Abnormal Uterine Bleeding

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**Abstract:** Abnormal uterine bleeding is the most common presenting complaint in the women attending gynaecology OPD. Endometrial biopsies and curettings constitute the first and most important diagnostic tool in the evaluation of AUB and in diagnosing endometrial pathology. It helps the gynaecologist to decide the appropriate therapeutic strategy. The present study was done to evaluate the histopathology of endometrium for identifying the various endometrial causes of AUB. **Materials and Methods:** A total of 106 specimens of endometrial curettings and biopsies over a period of one year from March 2018 to March 2019 were retrieved and analyzed and their findings were documented. The tissue had been received in 10% formalin, processed routinely, and the slides were stained with Haematoxylin and Eosin. **Results:** Out of the 106 cases studied, 16 were excluded due to inadequate sampling. The most common age group presenting with AUB in our study was 21-40 years. Out of the 90 cases, functional cause was the predominant finding seen in 75.56% of cases and the remaining 24.44% show definite endometrial pathology. The most common histopathological diagnosis among the functional cause was proliferative endometrium seen in 55.88% cases. Among the organic causes, endometrial hyperplasias were most common seen in 31.82% cases.

**Keywords:** abnormal uterine bleeding, endometrium, hyperplasia

## 1. Introduction

Abnormal uterine bleeding is defined as the bleeding from the genital tract that does not correspond with the duration, amount and frequency of the flow of a normal menstrual cycle (1). It contributes to about one-third of all the patients coming to gynaecology OPD (2, 3). The causes of AUB varies with age ; in young women in the reproductive age group, it is most commonly due to hormonal imbalance; while in peri-menopausal and post-menopausal women, AUB is generally due to hyperplasias and malignancies (4). Histopathological examination of endometrial biopsies is the gold standard diagnostic tool in the evaluation of AUB and a specific diagnosis helps to plan the therapy for successful, resourceful management of AUB (5). The samples can be obtained easily and safely and it has a high diagnostic accuracy. Endometrial biopsies and curettings exhibit a wide range of histopathological patterns due to normal and abnormal cyclical changes, drugs, hormones, infections and malignancies, thus posing a challenge to practicing pathologist (6).

Endometrial biopsies play a pivotal role in the evaluation of infertility. The dating of endometrium by its histological appearance is helpful clinically to document ovulation, assess hormonal status and determine cause of endometrial bleeding and infertility (7).

## 2. Material and Methods

The present study was conducted in the Post Graduate Department of Pathology, Govt Medical College Jammu, for a period of one year from March 2018 to March 2019. A total of 106 endometrial samples were obtained during this period. Endometrial samples were received in 10% formalin; underwent routine histological processing and stained with Haematoxylin and Eosin stain. The histopathological findings were categorized into functional and organic causes. The functional causes of AUB included in this study were normal cyclical endometrium (proliferative and secretory phase) and other changes like disordered endometrium and atrophic endometrium. Organic causes

included were endometrial hyperplasias without atypia and with atypia, endometrial polyp, endometrial carcinoma and retained products of conception.

Patients were also categorized into the following age groups: Reproductive (18-40 years), perimenopausal (41-50 years) and post menopausal (> 50 years).

### Criteria for exclusion

Patients with organic lesions involving the genital tract like leiomyomas, adenomyosis, cervical and vaginal pathology. Patients with systemic diseases like hemostatic disorders.

**Criteria for adequacy of specimen:** In specimens where no endometrial tissue was seen or no conclusion could be arrived at, despite of the presence of some tissue, a diagnosis of inadequate for evaluation was given.

## 3. Results

A total of 106 endometrial biopsies and curettings from the patients with abnormal uterine bleeding were analyzed. The cause of AUB could be determined in 90 cases only because 16 biopsy specimen were inadequate for evaluation. Out of the 90 cases, functional cause was the predominant finding seen in 75.56% of cases and the remaining 24.44% show definite endometrial pathology.

**Table 1:** Showing distribution of cases of AUB according to the cause.

Causes of AUB	Total	%
Functional cause	68	75.56
Organic cause	22	24.44
Total	90	100

Out of the 68 functional cases of AUB, proliferative endometrium was the most common pattern seen in 55.88 % of cases, followed by secretory endometrium 29.41 % of cases which was followed by disordered proliferative endometrium in 10.30 % of cases. Organic causes were predominant in peri menopausal and post menopausal age group and are shown in Table 3.

**Table 2:** Showing the various functional causes of AUB

Proliferative phase	38 (55.88%)
Secretory phase	20 (29.41%)
Disordered proliferative phase	07 (10.30%)
Atrophic endometrium	03 (4.41%)

**Table 3:** Showing various organic causes of AUB

Endometrial polyp	05 (22.72%)
Chronic endometritis	05 (22.72%)
Retained products of conception	03 (13.63%)
Endometrial hyperplasias	07 (31.82%)
Endometrial carcinoma	02 (9.09%)

**Table 4:** Showing distribution of cases based on causes in different age groups

	Reproductive group (21-40 yrs)	Perimenopausal Group (41-50 yrs)	Post menopausal Group (>50 yrs)
Proliferative phase	20	16	04
Secretory phase	07	11	0
Disordered proliferative phase	04	02	01
Atrophic endometrium	0	01	02
Endometrial polyp	04	01	
Chronic endometritis	04	02	01
Retained products of conception	03	0	0
Endometrial hyperplasias	01	01	05
Endometrial carcinoma	0	0	02

#### 4. Discussion

Abnormal uterine bleeding is a commonly encountered gynaecological problem (8). It includes both dysfunctional uterine bleeding (DUB) and bleeding from structural causes like fibroids, polyps, endometrial carcinomas and pregnancy complications (9). Dysfunctional uterine bleeding is defined as abnormal uterine bleeding without a demonstrable organic cause (10). In most instances, dysfunctional uterine bleeding is due to occurrence of an anovulatory cycle (11). It can be diagnosed after exclusion of structural, iatrogenic, medications, psychological and systemic disorders by various diagnostic techniques (12).

In our study, incidence of functional causes of AUB was 75.56% which was comparable to studies done by Najam M et al (13) 68.96%, and Ara and Roohi et al (14) 62.1%. Incidence of organic causes in our study was 24.44% which was consistent with the studies conducted by Ara et al 21.73% and Moghal et al (15) 22.5%. In reproductive age group, cyclical endometrial change was predominant which was similar to the study by Doraiswami et al (16). In perimenopausal age, proliferative endometrium was the most common cause seen in 36.84% cases. Similar results were seen in studies conducted by Bhatta et al 29.8% (17) and Damle et al 34% (18).

In postmenopausal age group, endometrial hyperplasias were the most common cause of AUB seen in 29.41% cases which was similar to study published by Najam et al (13). In our study, endometrial carcinoma was accounted in 9.09% cases whereas the percentage of endometrial carcinomas seen in studies done by Doraiswami et al (16), Bhatta et al

(17) and Khare et al (19) was 4.4%, 5.7% and 3.7% respectively. The present study indicated that the incidence of endometrial carcinoma increases with age; as reported in literature (16, 19, 20, 21); other studies also show that the incidence of endometrial carcinoma was common in post menopausal age group.

#### 5. Conclusion

The endometrial biopsies and curettings on histopathology revealed various pattern of lesions ranging from normal endometrium to frank malignancy. It is a gold standard diagnostic tool for the evaluation of causes of AUB. Majority of the patients with AUB presented with normal cyclical endometrium, followed by disordered proliferative endometrium and hyperplasias. The incidence of endometrial hyperplasias and endometrial carcinomas were common in perimenopausal and post menopausal women. Thus, histopathological evaluation of endometrial biopsies plays a pivotal role in the evaluation of this preneoplastic and malignant condition and will help the clinician to take appropriate steps in managing the case further.

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