

## Research Article

# Histopathological study of endometrium in cases of abnormal uterine bleeding

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### ABSTRACT

**Background:** Abnormal uterine bleeding is one of the commonest complaints in women and when it occurs without organic lesions like tumor, inflammation, it is called as dysfunctional uterine bleeding. Aim of current study was to find out the histopathological pattern of endometrium in Abnormal Uterine Bleeding (AUB) also to study organic causes of AUB.

**Methods:** Specimens received as endometrial curettage and hysterectomy specimens were studied followed by correlation of histopathology with age and clinical presentation.

**Results:** The patients were mainly from the age group of 30-49 years (74.24%). The most common menstrual disorder was menorrhagia (46.86%). In dysfunctional uterine bleeding the most common histological pattern of endometrium includes proliferative endometrium (22.8%) followed by endometrial hyperplasia (19.40%), atrophic endometrium (7.16%), secretory endometrium (5.97%), irregular shedding [1.80%], irregular ripening (1.20%) and anovulatory endometrium (0.59%). Organic lesions encountered in AUB cases were leiomyoma (17.92%), endometrial polyp (1.79%), endometrial carcinoma (1.50%), endometriosis (0.59%) and choriocarcinoma (0.29%).

**Conclusion:** It is important to know the histological pattern of the endometrium like proliferative endometrium, endometrial hyperplasia, atrophic endometrium, secretory endometrium, irregular ripening and shredding and organic lesions in patients diagnosed as AUB in different age groups since recognition of these conditions will help and will avoid further complications.

**Keywords:** Atypical uterine bleeding, Dysfunctional uterine bleeding, Endometrial hyperplasia

### INTRODUCTION

Endometrium is a dynamic, hormonally sensitive and responsive tissue which constantly and rhythmically undergoes changes in the active reproductive life.<sup>1</sup> Abnormal uterine bleeding is defined as a bleeding pattern that differs in frequency, duration and amount from a pattern observed during a normal menstrual cycle.<sup>2</sup> Abnormal uterine bleeding is one of the most frequently encountered and perplexing condition in adult women.<sup>3</sup> AUB not associated with an organic cause, is referred as Dysfunctional Uterine Bleeding (DUB). The AUB is one of the commonest complaints leading to

endometrial sampling. The AUB due to organic reasons were managed by hysterectomy. In this study, we have attempted to analyze different histological patterns of endometrium and organic lesions in cases of AUB. They were correlated with clinical parameters.

### METHODS

This one year prospective study, was done in the department of pathology in tertiary care centre which included 335 cases of clinically diagnosed AUB. Consent was taken from ethical committee of the institute prior to commencement of study. Detailed clinical history,

physical examination findings including pelvic examination and investigations were recorded. Pattern of the bleeding was classified as menorrhagia, metrorrhagia, polymenorrhagia, and postmenopausal bleeding.

The specimens were received as endometrial curettage and hysterectomy specimens. Total 195 endometrial curettage and 140 hysterectomy specimens were received. All specimens were fixed in 10% formalin. After detailed gross examination, paraffin blocks of tissue were made; sections were cut and stained with hematoxylin and eosin. Histopathological examination of endometrial biopsies and hysterectomy specimens were done, followed by clinical correlation.

**RESULTS**

The present study was carried out in the department of pathology in which 335 cases of AUB were studied. The patients were mainly from the age group of 30-49 years (72.24%). The common clinical presentation was dysfunctional uterine bleeding (58.20%). The most common menstrual disorder was menorrhagia (46.86%). The commonest endometrial pattern was proliferative endometrium (22.08%) followed by endometrial hyperplasia (19.40%).

In endometrial hyperplasia, maximum number of cases showed simple hyperplasia without atypia of endometrium (84.61%) and only 2 cases (3.08%) showed atypical endometrial hyperplasia.

Total 140 (41.80%) cases of atypical uterine bleeding with organic causes were studied. Out of these lesions, the most common organic lesion was leiomyoma (17.91%) including perimenopausal as well as postmenopausal age group. In present study, 9 cases of vesicular mole, one case of choriocarcinoma were noted. Endometriosis contributed a small proportion of cases.

The various histopathological patterns of endometrium and organic lesions in patients clinically diagnosed as abnormal uterine bleeding were proliferative endometrium, hyperplasia, atrophic endometrium, leiomyoma, endometrial polyp, endometrial carcinoma, endometriosis, choriocarcinoma, adenomyosis and products of conception.

**Table 1: Age distribution in patient of AUB.**

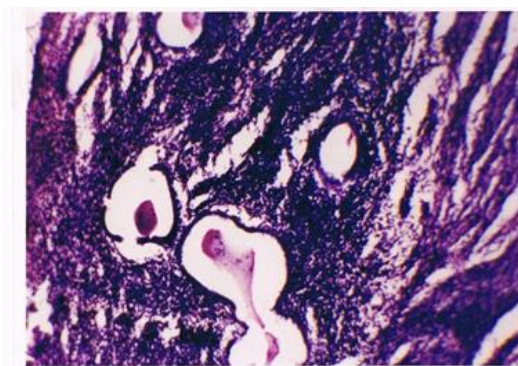
Age group (years)	Number of cases	Percentage (%)
Under 20 years	3	0.89
20-29	43	12.84
30-39	106	31.65
40-49	136	40.59
50-59	36	10.75
60 and above	11	3.28
<b>Total</b>	<b>335</b>	<b>100</b>

**Table 2: Histopathological pattern of endometrium.**

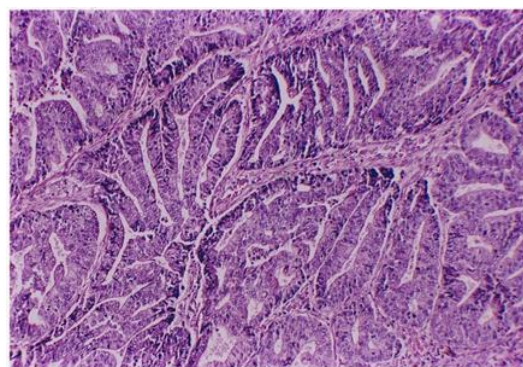
Pathology of endometrium	No. of cases	Percentage (%)
Proliferative	74	22.08
Secretory	20	5.97
Atrophic	24	7.16
Hyperplasia	65	19.40
Anovulatory	2	0.59
Irregular ripening	4	1.20
Irregular shedding	6	1.80
<b>Total</b>	<b>195 (58.20%)</b>	<b>58.20</b>

**Table 3: Organic lesions encountered in AUB cases.**

Organic lesions	Number of cases	Percentage
Leiomyoma	60	17.92
Adenomyosis	21	6.27
Product of conception	36	10.75
Endometrial polyp	06	1.79
Endometriosis	02	0.59
Endometrial carcinoma	05	1.50
Vesicular mole	09	2.69
Choriocarcinoma	01	0.29
<b>Total</b>	<b>140</b>	<b>41.80</b>



**Figure 1: Simple hyperplasia without atypical of endometrial (H&E×100).**



**Figure 2: Endometrial adenocarcinoma (H&E×400).**



**Figure 3: Gross appearance of vesicular mole.**

## DISCUSSION

In our study, we received 195 endometrial curettage and 140 hysterectomy specimens. In present study, we are dealing with abnormal uterine bleeding. Jairajpuri et al.<sup>1</sup> and Bhoomika et al.<sup>4</sup> observed that most of the abnormal uterine bleeding occurred in age group of 30 and 49 years (79.7%) and (80.66%) respectively. With respect to this, our findings were same (72.24%). In our study, the most common clinical presentation was menorrhagia (58.20%). Similar to this, Archana et al.<sup>5</sup> found menorrhagia in (43.85%) cases.

In our study, proliferative phase of endometrium was found in (22.8%) cases. Similar to this Jairajpuri et al.<sup>1</sup> Khare et al.,<sup>6</sup> Abdullah et al.,<sup>7</sup> found proliferative phase endometrial in (24.92%), (26.8%), (21.7%) cases respectively.

The distribution of types of endometrial hyperplasia in our study is compared with other studies as shown in Table 4. Simple hyperplasia without atypia of endometrium was the most common type according to Pilli et al.<sup>8</sup> and Vakiani et al.<sup>9</sup>

**Table 4: Showing distribution of types of hyperplasia in different series.**

Type of hyperplasia	Pilli et al. <sup>8</sup>	Vakiani et al. <sup>9</sup>	Present study
Simple hyperplasia without atypical of endometrial	73%	71%	85%
Complex hyperplasia without atypical	27%	26.60%	12%
Atypical hyperplasia	0	1.71%	3%

The incidence of endometrial carcinoma in the present study was 1.49%. Gerald et al.<sup>10</sup> and Khan et al.<sup>11</sup> observed similar findings accounting for 1.7% and 0.4% respectively.

Khan et al.<sup>11</sup> found incidence of endometrial polyp 0.4%. With respect to this our findings were same (1.79%).

To conclude, AUB occurring as heavy cyclical or acyclical flow is alarming and needs thorough evaluation. The histopathological evaluation of hysterectomy specimens and endometrial curettage is crucial for appropriate therapy. Therefore histopathological examination should be recommended before diagnosis to recognize the condition, provide early treatment and to avoid further complications.

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