

**Original article:**

## **Endometrium histopathology in women presenting with abnormal uterine bleeding**

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### **ABSTRACT:**

Abnormal uterine bleeding (AUB) is one of the commonest presenting symptoms in gynaecology out-patient department. It is caused by a variety of systemic diseases or it may be related to pregnancy, anovulation, fibroids, polyps, adenomyosis or neoplasia. Endometrial biopsy could be effectively used as the first diagnostic step in AUB. This study was done to evaluate histopathology of endometrium to identify the causes of AUB and to correlate them with various age groups. **MATERIALS AND METHOD:** This was a prospective study, undertaken in the department of pathology of Muzaffarnagar Medical College, Muzaffarnagar, over a period of one year from July 2016 to June 2017. 300 endometrial lesions diagnosed on histopathology were selected for the final analysis. **RESULTS:** The most common age group presenting with AUB was 40-50 years (55.7%). The commonest pattern in reproductive, perimenopausal and postmenopausal age group of patients was non secretory endometrium 114 cases (38%), followed by hyperplasia in 50 cases (16.7%), atrophic in 34 cases (11.3%) and secretory endometrium (10%). **CONCLUSION:** Dilatation and curettage is useful for diagnosis, to assess therapeutic response to know the pathologic incidence of organic lesions in cases of AUB prior to surgery. There is an age specific association of endometrial bleeding, with highest incidence in perimenopausal age group. The incidence of non secretory endometrial pattern was high in this study.

Keywords: Abnormal uterine bleeding, Endometrium, non secretory

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### **INTRODUCTION**

Excessive and irregular uterine bleeding continues to be one of the most frequently encountered complaint in gynaecology. Normal menstruation is defined as bleeding from secretory endometrium associated with an ovulatory cycle, not exceeding a length of five days. Any bleeding not fulfilling these criteria is referred to as an AUB<sup>1</sup>. Bleeding that is excessive in duration, frequency or amount for a particular patient should be considered abnormal<sup>2</sup>. It is the commonest complaint leading to endometrial sampling by endometrial biopsy or curettage. Abnormal uterine bleeding may represent a normal physiological state or can be a sign of a serious underlying condition. Some of the cases are the result of identifiable causes like psychological stress, endocrine disorders and early pregnancy. Abnormal uterine bleeding can be caused by a wide variety of disorders, such as endometrial polyps, adenomyosis, leiomyoma, severe renal or liver disease, hypothyroidism and hyperthyroidism<sup>3</sup>. Endometrium is a dynamic, hormonally sensitive and responsive tissue which constantly and rhythmically undergoes changes in the active reproductive life. When no systemic or local pelvic cause is evident to the clinician, histopathology of the endometrium remains the only alternative to arrive at the diagnosis.

## AIM AND OBJECTIVES

1. Histopathological examination of endometrial curettings and hysterectomy specimens in abnormal uterine bleeding and to evaluate the spectrum of lesions in endometrium.
2. To find the cause of abnormal uterine bleeding in different age groups.

## MATERIAL AND METHODS

Present study was conducted in the Department of Pathology at Muzaffarnagar Medical College , Muzaffarnagar on the specimens collected from Department of Obstetrics and Gynaecology. A prospective study was done from July 2016 to June 2017. 300 cases were selected for the study after satisfying the following inclusion and exclusion criteria:

**Inclusion criteria:** Endometrial samples from patients of all ages presenting with AUB were studied. Cases were categorized into reproductive (<40yrs), perimenopausal (40-50yrs) and postmenopausal (>50yrs) age groups.

**Exclusion criteria:** Specimens received as products of conception, Inadequate specimens comprising mainly of blood clots and mucous were excluded.

Detailed clinical history and relevant investigations were done. Specimens were fixed in 10% formal saline and then processing was done. Tissue was processed and sections were stained by Harris's Haematoxylin and eosin.

## RESULTS

During the period of study, 300 endometrial Specimens (65 dilatation and curettage material and 235 hysterectomy specimens) were received in the Department of Pathology from patients with complaint of abnormal uterine bleeding. The age incidence of the patients presenting with abnormal uterine bleeding is shown in Table 1. The majority 167 cases ( 55.7%) belonged to the perimenopausal age group (40-50 years), followed by 96 cases (32%) in the reproductive age group (<40 years) and 37 cases (12.3%) in the postmenopausal age group (>50 years). Non secretory endometrium was seen in majority of cases (114) , proliferative endometrium was obtained in 20 cases (6.7%), Secretory type of endometrium was observed in 30 cases (10%). 50 cases (16.7%) showed hyperplastic changes in the endometrium, in which 34/50 cases ( 11.3%) showed simple hyperplasia with or without atypia and 16/50 cases of complex hyperplasia with or without atypia. Atrophic endometrium was seen in 34 cases (Table 2). Patients belonged to 40 - 50 years of age group showed menorrhagia was the most prominent presenting symptom in different type of bleeding pattern followed by metrorrhagia (Table 3). Other histopathological findings in hysterectomy specimens showed adenomyosis (73 cases) followed by leiomyoma (72 cases) (Table 4). The age incidence of the patients presenting with abnormal uterine bleeding is shown in Table 1.

**Table 1: Age Incidence**

Age groups (years)	No. of cases	Percentage (%)
<40	96	32
40-50	167	55.7
>50	37	12.3
<b>Total</b>	<b>300</b>	<b>100</b>

**Table 2: Endometrial histology in Reproductive, Perimenopausal, and Postmenopausal age groups**

Endometrium Pattern	No. of cases	Reproductive age group (<40yrs)	Periurmenopausal (40-50) yrs	Postmenopausal (>50yrs)
Proliferative	20	11 (11.5%)	09 (5.4%)	00
Non secretory	114	35 (36.5%)	72 (43.1)	7 (18.9%)
Secretory	30	22 (23%)	07 (4.2%)	01 (2.7%)
Biphasic	14	06 (6.3%)	08 (4.8%)	00
Atrophic endometrium	34	00	16 (9.6%)	18 (48.6%)
Pill endometrium	03	00	03 (1.8%)	00
Chronic endometritis	11	02 (2.1%)	04 (2.4%)	05 (13.5%)
Acute endometritis	04	01 (1.0%)	02 (1.2%)	01 (2.7%)
Endometrial polyp	17	07 (7.3%)	10 (6.0%)	00
Simple hyperplasia without atypia	33	08 (8.3%)	24 (14.4%)	01 (2.7%)
Simple hyperplasia with atypia	01	00	00	01 (2.7%)
Complex hyperplasia without atypia	11	03 (3.1%)	07 (4.2%)	01 (2.7%)
Complex hyperplasia with atypia	05	01 (1.0%)	04 (2.4%)	00
Endometrial carcinoma	03	00	01 (0.6%)	02 (5.4%)
<b>Total</b>	<b>300</b>	<b>96</b>	<b>167</b>	<b>37</b>

**Table 3: Distribution of Cases according to age and types of abnormal uterine bleeding**

Types of bleeding	< 40 years	40-50 years	>50 years
Menorrhagia	83 (87.4%)	128 (75.7%)	01 (2.8%)
Metrorrhagia	06 (6.3%)	14 (8.3%)	-
Menometrorrhagia	03 (3.2%)	05 (3.0%)	-
Polymenorrhagia	03 (3.2%)	13 (7.7%)	-
Potmenopausal bleeding	00	09 (5.3%)	35 (97.2%)
Total	95	169	36

**Table 4 : Other histopathological findings in hysterectomy specimens in different age groups**

Age Group	Leiomyoma	Adenomyosis
< 40 Years	21	20
40- 50 Years	45	47
> 50 years	6	6
<b>Total</b>	<b>72</b>	<b>73</b>

## DISCUSSION

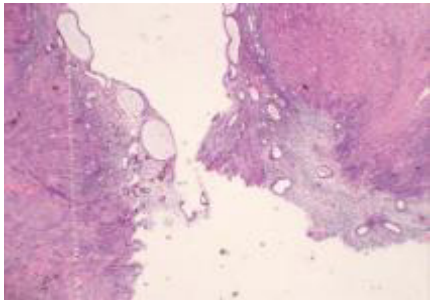
Abnormal uterine bleeding is the most common presenting symptoms in women regardless of age. Any bleeding that is excessive in duration, frequency or amount for a particular patient should be considered abnormal.

In the present study, patients presenting with abnormal uterine bleeding were categorized into three age groups- reproductive (<40yrs), perimenopausal (40-50yrs) and postmenopausal(>50yrs) age group, similar to the study of Baral R et al.2011,Perveen S et al.2011,Mirza T et al.2012.<sup>4,5,6</sup> Maximum number of cases were seen in the perimenopausal age groups(55.7%). Maximum number of patients belonged to muslim religion. Similarly Singh A and Ramana Bai PV et al (2016) reported maximum number of cases in 41 -50 years age group (48.6%) and main presenting complaint was menorrhagia 48.6% in reproductive, 47.9% in perimenopausal and 68.9% in postmenopausal age group.<sup>7</sup> In present study, the most common complaint in reproductive and perimenopausal age group was menorrhagia 87.4% and 75.7% respectively and postmenopausal bleeding (97.2%) in postmenopausal age group. In contrast, study by Bhatta S and Sinha AK et al (2012) showed metrorrhagia as main presentation of AUB in 47/122 cases (38.52%).<sup>8</sup> In present study, histopathologically endometrium in reproductive age group showed non secretory pattern most commonly in 36.5% cases followed by secretory in 23% cases and hyperplasia in 12.4% cases, in perimenopausal age group, non secretory in 43.1% cases was

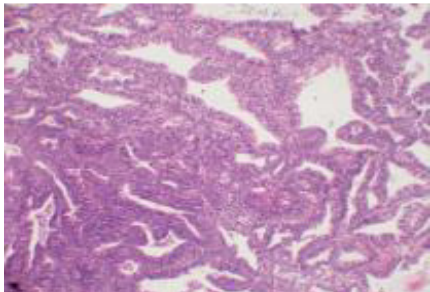
most common pattern followed by hyperplasia in 31% and atrophic in 9.6% cases, in postmenopausal age group atrophic endometrium was most common pattern in 48.6% cases. In contrast the study which is done by Singh A and Ramana Bai PV et al (2016) revealed most common pattern of endometrium was proliferative in 41.6% cases followed by secretory in 39.2% and hyperplasia in 11.2%, in perimenopausal age group proliferative in 39% cases followed by secretory in 28% and hyperplasia in 22.6% cases, in postmenopausal age group hyperplasia in 72% cases which was followed by atrophic endometrium in 13.7% cases.<sup>7</sup> Study done by Shah R et al (2014) showed 380 cases of AUB and 37.5% cases of proliferative endometrium which was followed by hyperplasia in 36.2% cases and secretory in 14.9% cases in reproductive age group, in perimenopausal age group hyperplasia in 45.8% cases followed by proliferative in 39.4% cases, in postmenopausal age group hyperplasia was most common in 52.7% cases followed by proliferative in 33.3% cases.<sup>9</sup> In this study, histopathological status of the hysterectomy specimens revealed leiomyoma in 72 cases and adenomyosis in 73 cases. But in contrast the study by Gazozai S et al (2004) showed leiomyoma in 67% and adenomyosis in 17% cases.<sup>3</sup>

### CONCLUSION

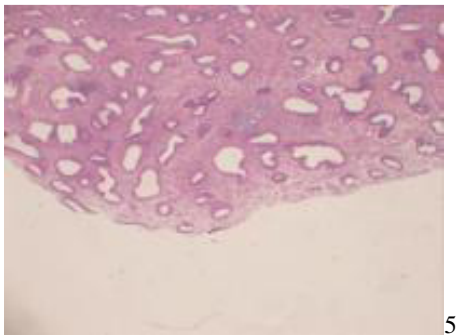
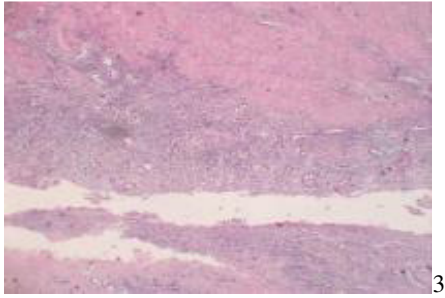
Excessive and irregular uterine bleeding is most common presenting complaint in women regardless of age. In all these cases, a thorough clinical history, detailed physical examination and the histopathological examination of a correctly timed endometrial biopsy and/or a hysterectomy specimen may reveal the underlying pathological condition. Thus, dilatation and curettage should be performed without delay in all cases abnormal uterine bleeding especially in perimenopausal and postmenopausal bleeding to rule out malignancy. Histopathological examination of endometrial biopsy is a major diagnostic tool in the evaluation of abnormal uterine bleeding and a specific diagnosis could help the physician to plan therapy for its successful treatment.



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