

**ORIGINAL RESEARCH**

# Histopathologic analysis of endometrial curettage of subjects with abnormal uterine bleeding

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### ABSTRACT

**Background:**The present study was conducted for histopathologic analysis of endometrial curettage of subjects with abnormal uterine bleeding. **Materials & methods:**A total of 100 subjects were analyzed during the study. Details of the study protocol was explained to the subjects. An informed consent was taken from all the subjects. History was taken. Information on regularity of the menstrual cycles was taken. All women clinically diagnosed as cases of AUB were entered this study. Endometrial curettage samples were fixed in 10% formalin and histopathological slides were prepared and stained with hematoxylin and eosin stain. Slides were examined under microscope to confirm the cause of AUB. **Results:**Mean age of the patients was 40.7 years. HMB was seen in 80 percent of the patients while frequent menstrual bleed and intermenstrual bleeding were seen in 62 percent and 33 percent of the patients respectively. Normal/hormonal histopathologic findings were seen in 55 percent of the patients while hyperplasia was seen in 5 percent of the patients. Polyps were seen in 29 percent of the patients (Endometrial polyp –12%; Cervical polyp – 17%). Endometrial carcinoma was present in 12 percent of the patients while cervical carcinoma was seen in 6 percent of the patients. Collectively, malignancies were present in 11 percent of the patients. **Conclusion:**Hormonal variations are the most common cause of AUB with Heavy menstrual bleeding being the most common clinical findings.

**Key words:** Abnormal uterine bleeding

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### INTRODUCTION

Abnormal uterine bleeding (AUB) is a condition that affects approximately 30% of women during their reproductive years. It is a considerable health care burden for women and has a definite effect on quality of life. Health care practitioners deal with this problem frequently. Abnormal uterine bleeding has various definitions and classifications. It can be loosely defined as a variation from the normal menstrual cycle. The variation can be in regularity, frequency, duration of flow, or amount of blood loss. Often the bleeding is “heavy,” which is “excessive menstrual blood loss which interferes with a woman’s physical, social, emotional and/or material quality of life.” The terms menorrhagia and metrorrhagia, as well as other combinations, have become outdated. There are many causes of AUB, including anatomic, systemic, and drug-related causes. Once

investigations have determined the cause and ruled out premalignant or malignant conditions, many of the treatment principles are the same.<sup>1-3</sup>

Women 35 years or older with recurrent anovulation, women younger than 35 years with risk factors for endometrial cancer, and women with excessive bleeding unresponsive to medical therapy should undergo endometrial biopsy. Treatment with combination oral contraceptives or progestins may regulate menstrual cycles. Histologic findings of hyperplasia without atypia may be treated with cyclic or continuous progestin. Women who have hyperplasia with atypia or adenocarcinoma should be referred to a gynecologist or gynecologic oncologist, respectively. Ovulatory abnormal uterine bleeding, or menorrhagia, may be caused by thyroid dysfunction, coagulation defects (most commonly von Willebrand disease), endometrial polyps, and submucosal

fibroids. Women of childbearing age who are at low risk for endometrial cancer may be assessed initially by transvaginal ultrasonography. Postmenopausal women with abnormal uterine bleeding should be offered dilatation and curettage; if they are poor candidates for general anesthesia or decline dilatation and curettage, they may be offered transvaginal ultrasonography or saline-infusion sonohysterography with directed endometrial biopsy.<sup>4</sup> Hence; the present study was conducted for histopathologic analysis of endometrial curettage of subjects with abnormal uterine bleeding.

**MATERIALS & METHODS**

The present study was conducted for histopathologic analysis of endometrial curettage of subjects with abnormal uterine bleeding. The study was conducted over a period of one year period. Inclusion criteria included subjects with AUB who underwent biopsy assessment endometrial tissue. A total of 100 subjects were analyzed during the study. Details of the study protocol was explained to the subjects. An informed consent was taken from all the subjects. History was taken. Information on regularity of the menstrual cycles was taken. All women clinically diagnosed as cases of AUB were entered this study. Endometrial curettage samples were fixed in 10% formalin and histopathological slides were prepared and stained

with hematoxylin and eosin stain. Slides were examined under microscope to confirm the cause of AUB. All the results were analyzed by SPSS software. Chi-square test was used for evaluation of level of significance.

**RESULTS**

35 percent of the patients belonged to the age group of 41 to 50 years while 28 percent of the patients belonged to the age group of 31 to 40 years. Mean age of the patients was 40.7 years. HMB was seen in 80 percent of the patients while frequent menstrual bleed and intermenstrual bleeding were seen in 62 percent and 33 percent of the patients respectively. Duration of symptoms was less than 6 months in 63 percent of the patients while it was 6 months to one year in 30 percent of the patients. Duration of symptoms was more than one year in 7 percent of the patients. Normal/hormonal histopathologic findings were seen in 55 percent of the patients while hyperplasia was seen in 5 percent of the patients. Polyps were seen in 29 percent of the patients (Endometrial polyp –12%; Cervical polyp – 17%). Endometrial carcinoma was present in 12 percent of the patients while cervical carcinoma was seen in 6 percent of the patients. Collectively, malignancies were present in 11 percent of the patients.

**Table 1: Age-wise distribution of patients with AUB**

Age group (years)	Number of patients	Percentage
20 to 30	22	22
31 to 40	28	28
41 to 50	35	35
More than 50	15	15
Total	100	100
Mean	40.7	

**Table 2: Distribution of patients with AUB according to clinical presentation**

Clinical presentation	Number of patients	Percentage
HMB	80	80
Frequent menstrual bleed	62	62
Intermenstrual bleeding	33	33

**Table 3: Distribution of patients with AUB according to duration of symptoms**

Duration of symptoms	Number of patients	Percentage
Less than 6 months	63	63
6 months to one year	30	30
More than one year	7	7
Total	100	100

**Table 4: Distribution of AUB patients according to etiopathogenesis**

Histopathological findings		Number of patients	Percentage
Normal/Hormonal (n=55)	Proliferative	20	20
	Secretory	15	15
	Atrophic	20	20
Hyperplasia (n=5)		5	5
Polyp (n=29)	Endometrial	12	12
	Cervical	17	17

Malignant (n=11)	Endometrial carcinoma	5	5
	Cervical carcinoma	6	6
Total		100	100

## DISCUSSION

Abnormal uterine bleeding (AUB) is the main reason women are referred to gynecologists and accounts for two thirds of all hysterectomies. In premenopausal women, AUB is diagnosed when there is a substantial change in frequency, duration, or amount of bleeding during or between periods. In postmenopausal women, any vaginal bleeding 1 year after cessation of menses is considered abnormal and requires evaluation. Patients usually present first to their family physicians, who can do most of the diagnostic workup and management. Specialist care is sought when first-line medical treatments have failed or specialized testing is required. An approach to diagnosis and management of AUB in women of all ages is, therefore, important for family physicians.<sup>5-8</sup>

Research on AUB has mostly focused on objective measures of menstrual blood loss as the main study outcome. These studies defined heavy menstrual bleeding as >80 mL mean blood loss per cycle. However, approximately two-thirds of women seeking medical treatment for heavy menstrual bleeding do not meet this objective criterion<sup>5</sup> suggesting that something other than the volume of blood lost is affecting women with AUB. In most circumstances, AUB is not life threatening, and from the patient perspective the main burden of this symptom is its impact on quality of life. Quality of life is not measured in a standardized fashion across studies on AUB and little information is available on the impact of AUB on quality of life measures from a national population-level perspective. The available population-level studies have shown that women with AUB have increased utilization of health resources compared to women without AUB.<sup>9-11</sup> Hence; the present study was conducted for histopathologic analysis of endometrial curettage of subjects with abnormal uterine bleeding.

In the present study, 35 percent of the patients belonged to the age group of 41 to 50 years while 28 percent of the patients belonged to the age group of 31 to 40 years. Mean age of the patients was 40.7 years. HMB was seen in 80 percent of the patients while frequent menstrual bleed and intermenstrual bleeding were seen in 62 percent and 33 percent of the patients respectively. Duration of symptoms was less than 6 months in 63 percent of the patients while it was 6 months to one year in 30 percent of the patients. Duration of symptoms was more than one year in 7 percent of the patients. Normal/hormonal histopathologic findings were seen in 55 percent of the patients while hyperplasia was seen in 5 percent of the patients. Goncharenko VM et al analyzed receptor systems in endometrial hyperplasia, to evaluate the capabilities of ultrasonography, sonoelastography for diagnosis and treatment control, and to develop

treatment algorithm. They included 313 women (20–45 years), assessed into the following: group 1 (n = 112) with glandular cystic hyperplasia, group 2 (n = 98) endometrial polyps, and group 3 (n = 103) atypical hyperplasia; and 82 controls who have undergone hysteroscopy before in vitro fertilization in tubal origin infertility were also included. Patients underwent clinical examination, transvaginal ultrasound, immunohistochemical study, and hormonal therapy/hysteroscopy. The evaluation of receptor status with ultrasound data in patients with endometrial hyperplasia allows for a clear definition of the treatment policy, avoidance of relapse, treatment optimization, and observation of such patients.<sup>12</sup> Abid M et al determined the clinical spectrum and frequency of pathologies in endometrial biopsy of patients with AUB in the population. The commonest histopathological spectrum was normal menstrual pattern (34%, 82/241) and the commonest pathology was hormonal imbalance (27%, 65/241), followed by endometrial polyp (14%, 34/241), chronic endometritis (12%, 28/241), atrophic endometrium (6%, 15/241), endometrial hyperplasia (5%, 12/241), and endometrial carcinoma (2%, 5/241). Chronic endometritis was commonly seen in reproductive age (18%, 21/119); hormonal imbalance (45%, 35/77) and endometrial hyperplasia (6.5%, 5/77) in perimenopausal age; endometrial polyp (35.5%, 16/45) and endometrial carcinoma (9%, 4/45) in postmenopausal age.<sup>13</sup>

In the present study, polyps were seen in 29 percent of the patients (Endometrial polyp –12%; Cervical polyp – 17%). Endometrial carcinoma was present in 12 percent of the patients while cervical carcinoma was seen in 6 percent of the patients. Collectively, malignancies were present in 11 percent of the patients. In another study conducted by Antunes A et al, authors evaluated estrogen receptor (ER) and progesterone receptor (PR) expression in the glandular epithelium and stroma of benign and malignant endometrial polyps of postmenopausal patients. Polypoid lesions were histologically classified as benign lesions (endometrial polyps and polyps with non-atypical simple hyperplasia or non-atypical complex hyperplasia) and premalignant and malignant lesions (polyps with atypical simple hyperplasia or atypical complex hyperplasia and carcinomatous polyps). ER and PR expression was evaluated by immunohistochemistry according to cell staining, intensity of nuclear staining and final score. The final score for receptor expression was compared between the benign and premalignant/malignant polyps. The prevalence of malignancy in endometrial polyps was 7.1% and was associated with postmenopausal bleeding. Only the final score for ER expression in the stroma of endometrial polyps was

higher in the benign group than in the premalignant/malignant group, and this difference was significant.<sup>14</sup>

## CONCLUSION

Hormonal variations are the most common cause of AUB with Heavy menstrual bleeding being the most common clinical findings.

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