



## STUDY OF ENDOMETRIUM BY ULTRASONOGRAPHY AND HISTOPATHOLOGY IN ABNORMAL UTERINE BLEEDING

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**ABSTRACT** **INTRODUCTION:** Abnormal Uterine Bleeding is the most frequent cause of seeking gynaecological consultation in reproductive age group. 70% of all gynaecological consultations are for abnormal uterine bleeding. It can occur in any age group but is most common in perimenopausal age group. Aim of our study To determine histopathological pattern of endometrium by dilatation and curettage in abnormal uterine bleeding and To correlate the endometrial pattern and thickness by transvaginal ultrasound with endometrial histopathology in patient with abnormal uterine bleeding

**METHODS:** study was done in 122 women with AUB. All the women were clinically evaluated. TVS study of endometrial pattern and thickness was done followed by Dilatation and Curettage (D&C) and HPE of the endometrial curettings.

**CONCLUSIONS:** Transvaginal ultrasound should be the investigation of choice due to its convenience, accuracy and non-invasiveness. Histopathological study of the endometrium is warranted to rule out atypical changes or endometrial malignancy.

**KEYWORDS :** Abnormal Uterine Bleeding, Histopathological Examination, Transvaginal Sonography, Endometrial Thickness, Dilatation & Curettage.

### INTRODUCTION

Abnormal uterine bleeding (AUB) is a broad term used to describe any change from normal menstruation or from a normal menstrual cycle pattern. According to FIGO recommendation abnormal uterine bleeding defined as follows. Disturbance of frequency, disturbance of heaviness of flow, disturbance of regularity, disturbance of duration of flow. Abnormal Uterine Bleeding is the most frequent cause of seeking gynaecological consultation. In the reproductive age group in particular, 70% of all gynaecological consultations are for abnormal uterine bleeding. It can occur in any age group but is most common in perimenopausal age group. If treatment is not instituted early, it may lead to severe anaemia.

The most probable etiology of abnormal uterine bleeding relates to the patient's reproductive age, as does the likelihood of serious endometrial pathologies. The specific diagnostic approach depends on whether the patient is premenopausal, perimenopausal or postmenopausal. In perimenopausal women with normal finding on physical examination the most likely diagnosis is abnormal uterine bleeding secondary to anovulation. In postmenopausal women with AUB, uterine pathology, particularly endometrial carcinoma is common.

Transvaginal Sonography (TVS) has been considered as a relatively safe, non-invasive and simple procedure that gives a clear view of most uterine conditions. It helps to categorize patients with abnormal uterine bleeding so as to identify patients who require further evaluation; however several concerns have been raised regarding its accuracy. The phasic variation in endometrial thickness can be easily visualized by Transvaginal sonography. Intrauterine space occupying lesions including submucous myomas, endometrial polyp and cancer can also be accurately diagnosed by transvaginal ultrasonography and their location and size also delineated. The high frequency transducer placed nearer to the region of interest permits better visualisation of the uterus and the endometrium. Dilatation and curettage is a simple day care procedure for histopathological evaluation of the endometrium and remains the standard diagnostic procedure for the assessment of abnormal uterine bleeding and for early detection of precancerous lesions like atypical endometrial hyperplasia. It was once considered as the gold standard of investigating patients with AUB, but it has the drawback of being a blind procedure with a chance of missing a small or focal lesion. Together with TVS the D&C still remains very cost effective, practical and dependable approach for investigating AUB.

### MATERIAL AND METHOD

The present study was done in Swaroop Rani Nehru hospital and

Kamala Nehru hospital, Department of Obstetrics and Gynaecology, MotiLal Nehru Medical College Prayagraj. The study was conducted in 122 women with complaint of abnormal uterine bleeding attending outpatient department and indoor cases over a period of twelve month. Women of 21-55 years age with complaint of abnormal uterine bleeding were included in study. Detailed history of menstrual abnormalities, duration of complaints, obstetric, medical, surgical history and details of previous treatment taken were noted. All the women were clinically evaluated – general, systemic and gynaecological examinations were carried out. All relevant investigations and pre-anaesthetic check-ups were done.

TVS was performed in all these women using ultrasonography machine GE LOGIQ 500 MD MR3 and a vaginal probe of 7.5 MHz. Endometrial thickness was measured as maximal double layer thickness in mid-sagittal section at the thickest area of the endometrium near the fundus, including the outermost border of both sides of the endometrium. A D&C and histopathology of endometrium was done. The menstrual abnormalities were correlated with the endometrial thickness on TVS and the histopathology report and the results were analysed.

### RESULT

**Table 1: age – Distribution**

AGE in years	Number of cases	%
21-25	5	4.09%
26-30	6	4.91%
31-35	12	9.8%
36-40	31	25.4%
41-45	46	37.7%
46-50	19	15.5 %
51-55	3	2.4%
Total	122	100%

Maximum number of patients (37.7%) were of 41-45 year 's of age and 31 (25.4 %) were of 36-40 years of age. 15.5 % patients were in 46- 50 years of age group. 9.8 % in 31-35 years age group, 6 (4.91%) patients in age group of 26 - 30 years, 5 (4.09 %) in 21- 25 years age group and least number of patient i.e 2.4 % were in 51-55 years age group.

**Table 2 : Menstrual Pattern**

Symptoms	No of cases	Percentage
Heavy menstrual bleeding (HMB)	33	27.04%

Frequent menstrual bleeding	26	21.31 %
Infrequent menstrual bleeding	14	11.4 %
Prolonged menstrual bleeding	15	12.2 %
Shortened menstrual bleeding	6	4.9%
HMB+frequent cycle	13	10.6 %
Irregular cycle	8	6.5%
Scanty menstrual cycle	5	4.09%
Post menopausal bleeding	2	1.6%
Total	122	100%

Most common presenting complaint was heavy menstrual bleeding, present in 33 (27.04 %) cases followed by frequent menstrual bleeding in 21.31%.

**Table 3 : Distribution of cases according to TVS finding**

Finding	Cases	%
Normal	54	44.26%
Leiomyoma	27	22.1%
Endometrial polyp	9	7.3%
Adenomyosis	8	6.55%
Hyperplasia	19	15.5%
Hyperplasia +polyp	5	4.09%
Total	122	100%

Maximum number of cases 54 (44.26%) had normal finding on transvaginal sonography, most common pathology detected on transvaginal sonography was Leiomyoma diagnosed in 27 (22.1%) cases, endometrial hyperplasia in 19(15.5%) endometrial polyp in 9(7.3%) cases, hyperplasia with polyp in 5(4.09%) cases, adenomyosis in 8 (6.55%) cases.

**Table 4 : Endometrial thickness on transvaginal sonography**

Thickness of endometrium(mm)	No. of cases	Percentage
< 4mm	5	4.09 %
5- 9 mm	41	33.6%
10-14mm	52	42.6%
15 -19mm	15	12.2%
>20mm	9	7.3%
Total	122	100%

Maximum number of cases 52 (42.6%) had endometrial thickness on transvaginal sonography 10-14mm, 41 (33.6%) had 5-9mm endometrial thickness 15 (12.2%) had 15-19mm endometrial thickness. 9 (7.3%) cases had endometrial thickness > 20mm and minimum number of cases 5 (4.09%) had endometrial thickness less than 4mm.

**Table 5: Histopathological finding**

Finding	Number of cases	Percentage
Proliferative endometrium	42	34.4%
Secretory endometrium	19	15.5%
Atrophic endometrium	3	2.4%
Endometrial polyp	16	13.1%
Endometrial hyperplasia	31	25.4%
Endometrial hyperplasia+ polyp	6	4.9%
Tubercular endometritis	4	3.2%
Malignancy	1	0.8%
Total	122	100%

Most common histopathological finding were proliferative endometrium present in 42(34.4%) cases, secretory endometrium were present in 19(15.5%) cases, atrophic endometrium in 3(2.4%) cases, endometrial polyp were present in 16(13.1%) cases, endometrial hyperplasia were present in 31(25.4%) cases, tubercular endometritis in 4(3.2%) cases and minimum number of case 1(0.8%) had malignancy.

**Table 6: Types of endometrial hyperplasia**

Type of endometrial hyperplasia	Number of cases	Percentage
Hyperplasia without atypia	34	91.8%
Atypical hyperplasia	3	8.1%
Total	37	100%

Among 37 patients with endometrial hyperplasia 34 (91.8%) cases had hyperplasia without atypia and 3(8.1%) cases had atypical hyperplasia.

## DISCUSSION

Abnormal uterine bleeding is a public health problem. Abnormal

uterine bleeding imposes substantial demands on health service resources. Accurate diagnosis is of ultimate importance to achieve effective treatment, reducing morbidity and reducing mortality. There are many tests available, including Transvaginal Sonography (TVS), saline infusion sonography and histopathology of endometrial biopsy however, optimal diagnostic work-up is unclear

Majority of cases i.e 46 (37.7%) were of 41-45 year's older age . In accordance of present study Sharma N et al(2012) had maximum cases (54 %) in the age group 35-45 year, Malavalli et al (2013) observed maximum cases (40%) in the age group 41-50 years.

In present study according to menstrual pattern most common presenting complaint was heavy menstrual bleeding, present in 33 (27.04 %) cases, 26(21.31%) cases had frequent menstrual bleeding. Similar was the observation of Sadia et al (2011) main presenting complaint (57.8%) was menorrhagia, Pillai et al (2014) had majority of cases (46.6%) presented with menorrhagia and Maiti et al (2018) had most common bleeding pattern menorrhagia (56%).

Majority of cases 54 (44.26%) cases had normal finding on transvaginal sonography, most common pathology detected on transvaginal sonography was Leiomyoma diagnosed in 27 (22.1%) cases, endometrial hyperplasia in 19(15.5%) cases In accordance with present study Elserly et al(2017) found maximum number (54.8%) cases had normal finding on TVS, endometrial hyperplasia in 18% cases . In present study most common histopathological finding were proliferative endometrium present in 42(34.4%) cases, secretory endometrium were present in 19(15.5%) cases. Similarly Shrestha et al (2018) had proliferative endometrium as most common finding in 30.4% cases Shadia et al(2011) found proliferative endometrium in 46.6% cases, secretory endometrium in 38.4% cases.

In our study out of 37 patients with endometrial hyperplasia 34 (91.8%) cases had hyperplasia without atypia and 3(8.1%) cases had atypical hyperplasia. Similarly Sadia et al (2011) found 92% cases had hyperplasia without atypia and 3.4% cases had hyperplasia with atypia. In contrast Shrestha et al (2018) all cases with endometrial hyperplasia are typical and atypical hyperplasia were not seen.

## CONCLUSION

Thus it is concluded from the present study that diagnosis of abnormal uterine bleeding is very important in perimenopausal age, the prognosis and response to therapy directly depending on histopathological examination of biopsy sample. The most common cause was functional causes. A correlation is obviously established between clinical, ultrasound and pathological examinations in etiological diagnosis of abnormal uterine bleeding.

Transvaginal sonography has a moderate diagnostic accuracy in detecting endometrial hyperplasia and other intrauterine pathology. TVS is safe, acceptable and easily available in most secondary and tertiary care setting and non invasive. it should be continued as first line diagnostic tool in patients with abnormal uterine bleeding.

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