

**Assess Endometrial Biopsy Audit and its Clinico-Pathological Correlation in Patients with Abnormal Uterine Bleeding in Bihar Region**Amit Kumar<sup>1</sup>, Jyoti Kumari<sup>2</sup>, Sujeet Kumar<sup>3</sup><sup>1</sup>Tutor, Department of Pathology, Bhagwan Mahavir Institute of Medical Science, Pawapuri, Nalanda, Bihar, India<sup>2</sup>Tutor, Department of Pathology, Bhagwan Mahavir Institute of Medical Science, Pawapuri, Nalanda, Bihar, India<sup>3</sup>Tutor, Department of Pathology, Jannayak Karpoori Thakur Medical College and Hospital, Madhepura, Bihar, India

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Conflict of interest: Nil

**Abstract****Aim:** The aim of the present study was to assess endometrial Biopsy Audit and its Clinico-Pathological Correlation in Patients with Abnormal Uterine Bleeding in Bihar region**Methods:** The present study was conducted in the Department of Pathology over a period of 12 months. 200 cases were selected in the study.**Results:** In the study majority 45% were in the age group 41 to 50 years. In the study 5% were Nulliparous and majority were in para 2 (51%). In the study majority of subjects had Heavy menstrual bleeding (48%). In the study clinically, 48% were diagnosed to have fibroid, 25% had Adenomyosis. In the study 45% had Proliferative, 28% had Secretary, 12% had Endometrial hyperplasia and 8% had Endometrial carcinoma.**Conclusion:** Abnormal uterine bleeding is a common diagnosis and the commonest presentation is menorrhagia. Histopathological examination of the endometrium showed a wide spectrum of pathological changes ranging from normal endometrium to malignancy thus necessitating endometrial sampling as an important diagnostic tool in the management of abnormal uterine bleeding. Accurate analysis of endometrial sampling is the key to effective therapy and optimal outcome.**Keywords:** Endometrial Biopsy, Abnormal Uterine Bleeding, Clinic-Pathological.

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**Introduction**

The term abnormal uterine bleeding has been used to describe any bleeding not fulfilling the criteria of normal menstrual bleeding. The causes of abnormal uterine bleeding include a wide spectrum of diseases of the reproductive system and non-gynecologic causes as well. Organic cause of abnormal uterine bleeding maybe subdivided into reproductive tract disease, iatrogenic causes and systemic disease. When an organic cause of AUB cannot be found, then by exclusion, a diagnosis of dysfunctional uterine bleeding (DUB) is assumed. In about 25% of the patients, the abnormal uterine bleeding is the result of a well-defined organic abnormality. [1]

The routine non-invasive investigations for abnormal uterine bleeding include complete blood count, platelet count, prothrombin time (PT), Activated partial thromboplastin time (APTT) and liver function test to rule out any coagulation and bleeding disorders. In women of reproductive age

group, serum and urine human chorionic gonadotropin (HCG) levels are evaluated to rule out pregnancy. To rule out an endocrine etiology, thyroid function test, follicle stimulating hormone (FSH), luteinizing hormone (LH), prolactin levels are assessed. On ruling out these causes, gynaecologists turn to imaging studies such as pelvic ultrasound (USG), and transvaginal USG and tissue sampling. Dilation and curettage can be a diagnostic as well as therapeutic procedure.<sup>2</sup> The sensitivity of endometrial biopsy for the detection of endometrial abnormalities has been reported to be as high as 96%. [2,3] The most likely etiology of AUB relates to the patient's age as to whether the patient is premenopausal, perimenopausal or postmenopausal. [4] Beyond the neonatal period, causes such as precocious puberty and functional ovarian tumor have to be considered. In this age group the attending pediatrician should also do a

careful search for urinary or cervical cause of bleeding. [5]

Abnormal uterine bleeding (AUB) is one of the most frequently encountered and perplexing condition in adult women. [6] AUB may be defined as any variation from the normal menstrual cycle, & includes changes in regularity & frequency of menses, in duration of flow, or in amount of blood loss.<sup>7</sup> The management of AUB by clinically, investigation and confirmed by ultrasonography but there may be discrepancy in clinical and sonological and histopathological diagnosis. Final diagnosis always correlated with histopathology study. The treatment for AUB includes both medical therapies and surgical procedures. [8] Surgical options include Hysteroscopic polypectomy, Endometrial ablation, Myomectomy, Hysterectomy. Hysterectomy is one of the most commonly performed surgeries in the world. [9]

The aim of the present study was to assess endometrial Biopsy Audit and its Clinico-Pathological Correlation in Patients with Abnormal Uterine Bleeding in Bihar region.

#### Materials and Methods

The present study was conducted in the Department of Pathology at Bhagwan Mahavir Institute of Medical Science, Pawapuri, Nalanda, Bihar, India over a period of 12 months. 200 cases were selected in the study.

All cases of AUB who underwent hysterectomy were included in the study. The exclusion criteria of this study was a) All AUB patients who didn't undergo hysterectomy, b) Patients who underwent hysterectomy for causes other than AUB and c) Hysterectomy performed for obstetrical causes.

All admitted patients with symptoms of heavy menstrual bleeding, dysmenorrhea, metrorrhagia, irregular bleeding, postmenopausal bleeding and other symptoms were examined. History included the age, parity, education, socioeconomic status, clinical symptoms, duration of symptoms and amount of blood loss, any associated comorbidities such as hypertension, diabetes and any history of previous hormonal or operative treatment. General physical examination and systemic examination was performed, then a provisional diagnosis was made. Laboratory investigations such as complete blood count, renal function test, thyroid function test, bleeding time, clotting time, Pap smear were done. Ultrasonographic examination of pelvis was done. Endometrial biopsy were preserved in 10% formalin saline and sent histopathological examination and reports were collected. Those cases in which hysterectomy was done were preserved and sent for histopathological examination. The reports were collected and final diagnosis was made. Final diagnosis was compared.

#### Statistical Analysis

Data was entered into Microsoft excel data sheet and was analyzed using SPSS 22 version software. Categorical data was represented in the form of Frequencies and proportions. MS Excel was used to obtain various types of graphs such as bar diagram. p value (Probability that the result is true) of <0.05 was considered as statistically significant after assuming all the rules of statistical tests.

#### Results

**Table 1: Demographic data**

Age in years	N%
31-40	60 (30)
41-50	90 (45)
51-60	40 (20)
>60	10 (5)
Parity	
Nulliparous	10 (5)
1	14 (7)
2	102 (51)
3	40 (20)
≥4	34 (17)

In the study majority 45% were in the age group 41 to 50 years. In the study 5% were Nulliparous and majority were in para 2 (51%).

**Table 2: Clinical symptoms**

Clinical symptoms	N%
Heavy menstrual bleeding	96 (48)
Dysmenorrhea	30 (15)
Heavy menstrual bleeding+ Dysmenorrhea	10 (5)
Heavy menstrual bleeding+ Irregular bleeding	6 (3)
Irregular bleeding	30 (15)
Metrorrhagia	12 (6)
Post-menopausal bleeding	16 (8)

In the study majority of subjects had Heavy menstrual bleeding (48%).

**Table 3: Diagnosis**

Diagnosis	N%
Fibroid	96 (48)
Adenomyosis	50 (25)
Fibroid+ Adenomyosis	12 (6)
DUB	22 (11)
Polyp	10 (5)
Endometrial carcinoma	8 (4)
Cervical carcinoma	2 (1)

In the study clinically, 48% were diagnosed to have fibroid, 25% had Adenomyosis.

**Table 4: Endometrial biopsy**

Endometrial biopsy	N%
Proliferative	90 (45)
Secretory	56 (28)
Endometrial hyperplasia	24 (12)
Atrophy	10 (5)
Endometrial carcinoma	4 (2)
Not done	16 (8)

In the study 45% had Proliferative, 28% had Secretory, 12% had Endometrial hyperplasia and 8% had Endometrial carcinoma.

### Discussion

Menstruation is a very complex process involving oestrogen and progesterone and their receptors, endometrial vasculature, endometrial vasoactive substances, processes of tissue break down and remodelling and endometrial repair and regeneration. Abnormal Uterine Bleeding (AUB) is defined as any bleeding that does not correspond with the frequency, duration or amount of blood flow of a normal menstrual cycle and could be a sign of simple hormonal imbalance or a serious underlying condition necessitating aggressive treatment including a major surgical procedure. It affects 10-30% of reproductive aged women and upto 50% of perimenopausal women.<sup>10</sup> Pattern and causes of abnormal uterine bleeding differs in different age group and reproductive status of women. Abnormal uterine bleeding is a common reason for women of all ages to consult their gynaecologist and is one of the most common debilitating menstrual problems that had remained one of the most frequent indications for hysterectomy in developing countries. [11] It includes both organic and inorganic causes. The most common presentations are menorrhagia, polymenorrhoea, metrorrhagia and intermenstrual bleeding.

In the study majority 45% were in the age group 41 to 50 years which were comparable to Rizvi et al. [12] In the study 5% were Nulliparous and majority were in para 2 (51%). Mohammad et al [13] in their study found that (65.9%) cases with a parity of 2 which is comparable to our study. Almost similar results were obtained in the studies by Lee NC et al [14] found a mean parity of 3. In the study majority of subjects had Heavy menstrual bleeding (48%).

Nayar et al [15] found HMB 49.1% cases. In the study clinically, 48% were diagnosed to have fibroid, 25% had Adenomyosis. In the study 45% had Proliferative, 28% had Secretory, 12% had Endometrial hyperplasia and 8% had Endometrial carcinoma which were comparable to study by Jairajpuri et al [16] which showed secretory endometrium was most common histopathological diagnosis followed by proliferative endometrium 28.9% and 24.9% respectively. Variation of secretory endometrium ranging from 14% to 63.5% by Bhosle et al, Takreem et al, Mirza et al, Patil et al. [17-20]

Polyp was observed mainly in the perimenopausal and reproductive age group than the postmenopausal age group. This was in contrast with the study of Mariam Abid et al who showed an increased incidence of endometrial polyps in perimenopausal and post-menopausal age group. [11] The routine non-invasive investigations for abnormal uterine bleeding include complete blood count, platelet count, prothrombin time (PT), Activated partial thromboplastin time (APTT) and liver function test to rule out any coagulation and bleeding disorders. In women of reproductive age group, serum and urine human chorionic gonadotropin (HCG) levels are evaluated to rule out pregnancy. To rule out an endocrine etiology, thyroid function test, follicle stimulating hormone (FSH), lutenizing hormone (LH), prolactin levels are assessed. On ruling out these causes, gynaecologists turn to imaging studies such as pelvic ultrasound (USG), and transvaginal USG and tissue sampling. Dilution and curettage can be a diagnostic as well as therapeutic procedure.<sup>21</sup> The sensitivity of endometrial biopsy for the detection of endometrial abnormalities has been reported to be as high as 96%. [21,22]

## Conclusion

Abnormal uterine bleeding is a common diagnosis and the commonest presentation is menorrhagia. Histopathological examination of the endometrium showed a wide spectrum of pathological changes ranging from normal endometrium to malignancy thus necessitating endometrial sampling as an important diagnostic tool in the management of abnormal uterine bleeding. Accurate analysis of endometrial sampling is the key to effective therapy and optimal outcome. This would help in individualizing the management of abnormal uterine bleeding with a view to conserve the uterus.

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