

# Frequency of Endometrial Hyperplasia in Premenopausal Women with Heavy Menstrual Bleeding / Abnormal Uterine Bleeding

Fatima Nazim, Zartaj Hayat and Nosheen Akhtar

## ABSTRACT

**Objective:** This study was performed with an aim to determine the frequency of different types of endometrial hyperplasia in premenopausal women presenting with menstrual irregularity.

**Study design:** Descriptive / cross-sectional study

**Place and Duration of Study:** This study was conducted at the Department of Obstetrics & Gynaecology, Fauji Foundation Hospital, Rawalpindi from September 2011 to March 2012.

**Materials and Methods:** 263 patients aged between 40 to 50 years having heavy menstrual bleeding or abnormal uterine bleeding were enrolled in the study using non probability consecutive sampling technique. Transvaginal ultrasound was performed to measure the endometrial thickness which was followed by endometrial sampling, done by pipelle endocurette. Histopathology reports were reviewed

**Results:** Out of 263 patients, endometrial hyperplasia was diagnosed in 68 patients. The frequency of various types of endometrial hyperplasia i.e. simple hyperplasia without and with atypia, and complex hyperplasia without and with atypia was found to be 60.3%, 17.6%, 14.7% & 7.3% respectively. Mean age of patient in the study was  $45.3 \pm 3.2$  years. 91.9% of the patients were multiparous. 67.6% of the patients presented with heavy menstrual bleeding and 32.2% presented with abnormal uterine bleeding. 60.2% of the patients have endometrial thickness more than 10mm.

**Conclusion:** Premenopausal women with menstrual irregularity should be evaluated for endometrial hyperplasia as it is precursor for endometrial carcinoma so that early detection and treatment improves their quality of life.

**Key Words:** Endometrial hyperplasia, HMB, AUB, Transvaginal ultrasound, Endometrial thickness, Pipelle endocurette.

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## INTRODUCTION

Endometrial Hyperplasia is the non-invasive proliferation of the endometrial epithelium.<sup>1</sup> Endometrium is capable of marked hyperplasia due to prolonged and unopposed estrogen exposure.<sup>2</sup> Based upon architectural complexity and nuclear cytology, endometrial hyperplasia is further sub grouped as simple or complex hyperplasia, with or without atypia.<sup>3</sup> The earliest proliferation shows simple tubular architecture with crowded glands. The advance proliferation is characterized by glands with complex architecture which may contain typical cells.<sup>4</sup> Although endometrial carcinoma is the commonest gynaecological cancer in United States with the incidence of 23.2 per 100,000 women, the data available about the incidence of endometrial hyperplasia is limited.<sup>5</sup>

Department of Obstetrics and Gynaecology, Fauji Foundation Medical College / Hospital, Rawalpindi.

Correspondence: Fatima Nazim, Senior Registrar, Department of Obstetrics and Gynaecology, Fauji Foundation Medical College / Hospital, Rawalpindi.

Contact No: 0323-5130225

Email: fatimanazim15@gmail.com

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The frequency of endometrial hyperplasia was found to be 13.2% in a study conducted by Marium Abid.<sup>6</sup> The incidence of simple, complex and atypical endometrial hyperplasia in a study performed by Wentz was found to be 5.1%, 2.6% & 1.3% respectively.<sup>7</sup> In a study conducted by Kurman et al<sup>3</sup> the risk of progression to carcinoma was 23% in patients having endometrial hyperplasia with atypia while it was about 2% in patients having hyperplasia without atypia with a follow up of 13 years. Co-existent carcinoma with atypical hyperplasia ranges from 25 – 50%.<sup>6</sup>

Clinical presentation of endometrial hyperplasia is heavy menstrual bleeding or abnormal menstrual bleeding. Risk factors for endometrial hyperplasia includes obesity, early menarche, late menopause, nulliparity, diabetes and unopposed estrogen therapy. Endometrium is the best accessible tissue for histopathologic evaluation of abnormal uterine bleeding, therefore, different methods are devised for endometrial sampling. Among these hysteroscopic guided endometrial biopsy is the method of choice.<sup>8</sup>

The aim of conducting this study was to estimate the frequency of endometrial hyperplasia in premenopausal women presenting with heavy menstrual bleeding (HMB) / abnormal uterine bleeding (AUB) which helps in estimating the burden of disease as the patient and the health care department have to sustain the expenses

for diagnostic evaluation, medical and surgical treatments. This study also emphasizes on the fact that since endometrial hyperplasia is a premalignant condition, its early detection and treatment results in prevention of morbidity and mortality caused by endometrial hyperplasia in premenopausal women.

## MATERIALS AND METHODS

This study was conducted in the department of Obstetrics and Gynaecology, Fauji Foundation Hospital, Rawalpindi from September 2011 to March 2012. 263 patients having age ranging from 40-50 years presenting with HMB or AUB were enrolled in the study using non probability consecutive sampling technique. Patients with fibroid uterus, cervical polyps, genital tract tumours, hepatic disease, coagulation disorders, hyper / hypothyroidism or taking tamoxifen were excluded from the study.

A detailed history was taken from the patients. After that general physical, systemic, speculum and bimanual examinations were done. Endometrial thickness was measured by performing transvaginal ultrasound. Routine investigations like blood group & Rh type, blood complete picture, random blood glucose and hepatitis B, C screening were done. Endometrial sampling was performed by pipelle endocurette on OPD basis and the endometrial curettings obtained were sent for histopathologic examination. The results were entered in the performa. The elements of bias and confounders were controlled by strictly following the selection criteria.

## RESULTS

The range for patient's age was between 40-50 years. Amongst them, the most vulnerable age group was between 44-47 years (48.5%) Table 1. Majority of the patients were multiparous (91.1%) Table 2.

**Table No. 1: Age distribution of patients having endometrial hyperplasia (n=68)**

Age Group	Number of Cases	Percentage
40-43 Years	14	20.5%
44-47 Years	33	48.5%
48-50 Years	19	27.5%

**Table No.2: Parity of patients with Endometrial Hyperplasia (n=68)**

Parity	Number of Cases	Percentage
Nulliparous	6	8.8%
Multiparous	62	91.1%

**Table No.3: Pattern of Menstrual Irregularity in patients of Endometrial Hyperplasia (n=68)**

Pattern of Bleeding	No. of Cases	Percentage
HMB	46	67.6%
AUB	22	32.3%

HMB was found to be the commonest menstrual irregularity in patients having endometrial hyperplasia (67.6%) Table 3. Endometrial thickness measured on transvaginal ultrasound was more than 10mm in 41 cases (60.2%) of endometrial hyperplasia, Table 4.

Out of 263 patients 68 (25%) were diagnosed with endometrial hyperplasia. The commonest type of endometrial hyperplasia was found to be simple hyperplasia without atypia (60.7%) Table 5.

**Table No. 4: Endometrial Thickness measured by Transvaginal Ultrasound (n=68)**

Endometrial Thickness	Number of Cases	Percentage
5-7 mm	9	13.2%
8-10 mm	18	26.4%
> 10mm	41	60.2%

**Table No.5: Types of Endometrial Hyperplasia (n=68)**

Type	Number of Cases	Percentage
Simple Hyperplasia without atypia	14	60.3%
Simple Hyperplasia with atypia	6	8.8%
Complex Hyperplasia without atypia	16	23.5%
Complex Hyperplasia with atypia	5	7.3%

## DISCUSSION

Endometrial hyperplasia is the representative of a group of morphological changes which range from reversible glandular proliferation to precursors for endometrial carcinoma. The commonest clinical presentation of endometrial hyperplasia is heavy menstrual bleeding. Menstrual irregularity is the most common presenting complaint of the patients, reporting to the gynaecologists in their out patient clinic. Although it is difficult to estimate the prevalence of abnormal uterine bleeding among women in their reproductive group but between 9 to 30% of these women report in menstrual irregularity clinics for medical evaluation and management.<sup>9</sup> Among the etiology of abnormal uterine bleeding, a study conducted by Ozdemir et al<sup>10</sup> showed that the frequency of endometrial hyperplasia, endometrial polyp and endometrial carcinoma was 11.8%, 4.2%, 5.5% respectively in premenopausal women. Muhammad Muzaffar et al<sup>11</sup> evaluated 260 patients with abnormal uterine bleeding by performing dilatation and curettage and observed that endometrial hyperplasia was the most frequent cause accounting for 24.7% of cases which is close to our study (25%).

Ameera Takreem<sup>2</sup> et al studied the frequency of endometrial hyperplasia in 100 patients who presented with abnormal uterine bleeding in premenopausal age

group and observed the incidence of simple, complex and atypical hyperplasia as 66%, 20%, 13.3% respectively. In our study simple cystic hyperplasia without atypia was commonest of all (60%).

The bleeding pattern in most of the patients with simple cystic hyperplasia is heavy menstrual bleeding whereas complex and atypical hyperplasias present with irregular, acyclic bleeding. In our study, HMB was the most common bleeding pattern (67.6%). Among 41 patients with simple cystic hyperplasia, 73% presented with HMB.

A trend of increased frequency of endometrial hyperplasia with increase in endometrial thickness was observed in our study. 60.2% of patients of patients with endometrial hyperplasia had endometrial thickness >10mm. Studies on transvaginal ultrasound have demonstrated that endometrial thickness measurement correlated well with results obtained on histopathology.<sup>11</sup> As it is safe and valid, it can be used as a first line investigation in evaluating patients with AUB or HMB in perimenopausal age group. A study by Aslam M et al<sup>12</sup> reported diagnostic accuracy of TVS to be 75.6% in detecting endometrial hyperplasia. Behrooz Shokuhi studied the role of transvaginal ultrasound in diagnosing endometrial hyperplasia in pre and postmenopausal women and reported the diagnostic accuracy as 88.25% and 100% respectively.<sup>13</sup>

Although hysteroscopy and curettage is regarded as gold standard for detecting endometrial pathology but Pipelle endocurette is a safe, less expensive, well tolerated and more convenient method for endometrial sampling as cervical dilatation is not necessary.<sup>14</sup> Pipelle endocurette has sensitivity, specificity, positive predictive value and negative predictive value of 100% for endometrial hyperplasia in a study conducted by Shazia Fakhra and colleagues.<sup>15</sup> Abrahim Anwar Abdelazim and colleagues compared Pipelle endometrial sampling with conventional dilatation and curettage in patients with abnormal uterine bleeding and reported diagnostic accuracy of 100% for endometrial hyperplasia with Pipelle endometrial sampling.<sup>16</sup>

Limited data is available to describe the incidence of progression of endometrial hyperplasia to carcinoma. A study conducted by Lancey J V<sup>17</sup> et al had shown the progression of atypical hyperplasia to endometrial carcinoma. Therefore total abdominal hysterectomy is considered as the best treatment option for patients diagnosed with atypical hyperplasia.<sup>18,19</sup> Cornelia L and colleagues concluded in a study regarding management of endometrial precancers that total hysterectomy is curative for atypical endometrial hyperplasia and also allows the assessment of the sample for concomitant endometrial carcinoma.<sup>20</sup>

## CONCLUSION

Endometrial hyperplasia is a common cause of HMB / AUB and its presenting clinical symptoms often require emergency or outdoor evaluation. In addition patients and health care system endure the cost of diagnostic evaluation, medical and surgical treatments. Since it's a premalignant condition, early diagnosis and prompt treatment helps in improving life expectancy in these patients.

**Conflict of Interest:** The study has no conflict of interest to declare by any author.

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