

# Histopathological Patterns of Endometrium in Women With Abnormal Uterine Bleeding in Akhtar Saeed Medical College

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## ABSTRACT

Perimenopause or menopausal transition is the period in which a woman's body makes a natural shift from more-or-less regular cycles of ovulation and menstruation towards menopause. **Materials and Methods:** A retrospective age specific comparative analysis of 45 perimenopausal women presenting with abnormal uterine bleeding was done who underwent endometrial sampling during 8 months period from January 2014 to August 2014 at the Akhtar Saeed, Hospital. Endometrial tissue collected by sampling procedures such as dilatation and curettage (D and C), endometrial biopsy and fractional curettage had been sent to the pathology laboratory, Akhtar Saeed Medical college, Lahore for evaluation. **Results:** The most common clinical presentation was represented by menorrhagia (70%) followed by metrorrhagia (15%), polymenorrhagia(15%). Evaluation of the endometrium revealed various patterns on histopathology. Secretory endometrium seen in 14 cases (31%) was the most common out of which late secretory endometrium on histopathology was seen in 08 patients (17.7%), early secretory endometrium on histopathology seen in 05 cases (11%), while mid secretory seen in one case. Proliferative endometrium seen in 13 cases (28.8%) was the second most common pathology. Endometrial hyperplasia was seen in 09 (20%) patients who presented with atypical uterine bleeding . Adenocarcinoma seen in 05 cases (11%), inactive endometrium is seen in 03 cases (6.66%). Hormonal imbalance seen in 01 case (2,22%). **Conclusion:** A significant number show underlying organic pathologies thus highlighting the significance of endometrial curetting and biopsy as a diagnostic procedure.

**Keywords:** Atypical, bleeding, endometrium, hyperplasia.

## INTRODUCTION

**P**erimenopause is the period in which a woman's body makes a natural shift from more-or-less regular cycles of ovulation and menstruation toward menopause. This phase generally occurs at around 40-50 years of age. Abnormal uterine bleeding is a commonly encountered gynecological problem in this age group. Abnormal uterine bleeding may be defined as a bleeding pattern that differs in frequency, duration, and amount from a pattern observed during a normal menstrual cycle or after menopause.<sup>1</sup> It includes both dysfunctional uterine

bleeding (DUB) and bleeding from structural causes like fibroids, polyps, endometrial carcinoma, and pregnancy complications. A certain organic cause is not seen in DUB and endometrial curettage plays a significant role in excluding organic uterine disorders.<sup>2,3</sup>

D and C also allows for a fractional curettage with separate sampling of both the endometrial and endocervical tissue. Hysteroscopy has almost replaced blind curettage as the uterine cavity can be observed and the area in question can be curetted. Transvaginal/transabdominal ultrasonography is another useful adjunctive technique for examining

the endometrium in the evaluation of AUB. Menopause is an important event occurring during middle age in women and represents the end of a woman's reproductive life. The age at which natural menopause occurs is between the age of 45 and 55 years worldwide and a study from north India concluded that the mean age at menopause was 44.54 years.<sup>4</sup>

Patients with a history of anovulation, obesity, hypertension, diabetes, and exogenous estrogen use are at an increased risk for hyperplasia and adenocarcinoma.<sup>5</sup> Early evaluation in the perimenopausal and postmenopausal women is essential to confirm the exact nature of the lesion and to rule out malignancy. We undertook a study to determine the types and frequencies of endometrial pathologies in perimenopausal women presenting with abnormal uterine bleeding at our hospital who underwent endometrial sampling.

## MATERIALS AND METHODS

A retrospective age specific comparative analysis of 45 perimenopausal women presenting with abnormal uterine bleeding was done who underwent endometrial sampling during 8 months period from January 2014 to August 2014 at the Akhtar Saeed, Hospital. Endometrial tissue collected by sampling procedures such as dilatation and curettage (D and C), endometrial biopsy and fractional curettage had been sent to the pathology laboratory, Akhtar Saeed Medical College, Lahore for evaluation.

All the patients in this study were in the 40-55 age group. Data on the age and presenting clinical features were retrieved from the accompanying laboratory request forms or patients records wherever available. All endometrial biopsies and curettages of women with abnormal uterine bleeding were retrieved and reviewed, the pattern of uterine histopathological changes were identified and classified.

The total tissue submitted was processed. Paraffin blocks were prepared and tissue section (4-6  $\mu$ ) cut. The sections were stained with hematoxylin and eosin stain (H and E) and examined microscopically by the pathologist.

## RESULTS

A total of 45 perimenopausal (40-55 years, mean age of 47.9 years) women in the 40-55 years age group underwent endometrial sampling at the Akhtar Saeed Hospital, Lahore over a 8-months period.

Data on the clinical presentation shows, out of the 45 cases of atypical uterine bleeding, the most common clinical presentation was represented by menorrhagia (70%) followed by metrorrhagia (15%) and polymenorrhagia (15%).

Evaluation of the endometrium revealed various patterns on histopathology Table 1.

**Table 1: Histopathological evaluation of 45 cases of endometrial biopsy.**

Histopathological diagnosis	Cases	Percentage
Secretory endometrium	14	31
Proliferative endometrium	13	28.8
Hyperplastic endometrium	09	20
Adenocarcinoma	05	11.11
Inactive endometrium	03	6.64
Hormonal imbalance	01	2.22

The PALM-COEIN (polyp; adenomyosis; leiomyoma; malignancy and hyperplasia; coagulopathy; ovulatory dysfunction; endometrial; iatrogenic and not yet classified) classification system for AUB has been recently approved as a FIGO classification system. This classification system was developed with the aim that it could be used by clinicians, investigators, and even patients to facilitate communication, clinical care, and research.<sup>6</sup>

Secretory endometrium seen in 14 cases (31%) was the most common out of which late secretory endometrium on histopathology was seen in 08 patients (17.7%), early secretory endometrium on histopathology seen in 05 cases (11%), while mid secretory seen in one case. Proliferative endometrium seen in 13 cases (28.8%) was the second most common pathology

Endometrial hyperplasia was seen in 09 (20%) patients who presented with atypical uterine bleeding. On categorizing, the types of endometrial

hyperplasia, simple hyperplasia without atypia was seen in 08 cases and complex hyperplasia without atypia in 01 case.

Three (6.66%) cases showed inactive endometrium and one case showed hormonal imbalance with evidence of exogenous hormone therapy, which is a common line of medical management in patients of atypical uterine bleeding and often prescribed empirically.

Five (11%) cases showed adenocarcinoma out of which 04 cases showed moderate differentiation while one case showed papillary pattern.

## **DISCUSSION**

Dysfunctional uterine bleeding (DUB), Abnormal uterine bleeding, describes as excessive and irregular continues to be one of the most frequently encountered complaints in gynecologic practice. It accounts for more than 70% of all gynecological consultations in the peri- and postmenopausal years.<sup>4</sup>

Conventional D and C is commonly used in developing countries with restricted resources as a standard and an important method of assessing abnormal uterine bleeding. This study attempts to analyze atypical uterine bleeding among women in the 40-55 age group. Atypical uterine bleeding without structural pathology is seen in women of all age groups but is more common in adolescent and perimenopausal women.

DUB is a disorder with a hormonal imbalance as etiopathogenic substrate, without organic cause.<sup>6</sup> Abnormalities all along the hypothalamic-pituitary-ovarian axis may result in derangements of follicular maturation, ovulation or corpus luteum formation resulting in changes in the hormonal environment. These alterations in the normal hormonal patterns may lead to abnormal uterine bleeding. The primary disease can be detected by histological variations of endometrium taking into account the age of the woman, the phase of her menstrual cycle, and use of any exogenous hormones. Pregnancy-related and dysfunctional uterine bleeding are more frequent in younger patients, whereas atrophy and organic lesions

become more common in older individuals. Hyperplasia is found in up to 16% and endometrial carcinoma in fewer than 10% of postmenopausal patients undergoing biopsy.<sup>15</sup> Patients with a history of anovulation, obesity, hypertension, diabetes, and exogenous estrogen use are at an increased risk for hyperplasia and adenocarcinoma.<sup>5</sup> Early evaluation in the perimenopausal and postmenopausal women is essential to confirm the exact nature of the lesion and to rule out malignancy.

We found that the most common histopathological finding was secretory endometrium in 14 cases (31%) out of which late secretory endometrium on histopathology was seen in 08 patients (17.7%), early secretory endometrium on histopathology seen in 05 cases (11%), while mid secretory seen in one case. Proliferative endometrium seen in 13 cases (28.88%) was the second most common pathology. Similar studies in women with atypical uterine bleeding showed incidence of secretory endometrium at 16.1% and 23%, respectively.<sup>7,8</sup>

A similar incidence of secretory pattern (16.6%) was noted in another study.<sup>9</sup> The bleeding in secretory phase is due to ovulatory dysfunctional uterine bleeding and is characterized by regular episodes of heavy menstrual blood loss. The main defect is in the control of processes regulating the volume of blood lost during the menstrual breakdown of endometrium.<sup>10</sup>

Endometrial hyperplasia was seen in 09 (20%) patients who presented with atypical uterine bleeding. On categorizing, the types of endometrial hyperplasia, simple hyperplasia without atypia was seen in 08 cases and complex hyperplasia without atypia in 01 case. Identification of endometrial hyperplasia is important because they are thought to be precursors of endometrial carcinoma.<sup>11</sup>

The overall risk of progression of hyperplasia to cancer is 5-10%.<sup>12</sup> Simple (SH) complex (CH), simple atypical (SAH), and complex atypical hyperplasia (CAH) have different progression risks of 1, 3, 8 and 29%, respectively, to carcinoma.<sup>12</sup>

In perimenopausal years, anovulatory cycles are most frequent and chronic anovulation is associated with an irregular and random pattern of

bleeding. Several studies from the subcontinent have shown similar findings.<sup>7,8,13,14</sup>

A study of perimenopausal women with atypical uterine bleeding by Bhosle *et al.*<sup>15</sup> from Mumbai showed proliferative endometrium in 66.1% and simple hyperplasia without atypia in 17.8% of cases. Takreem *et al.*<sup>16</sup> .In a study carried out in Abbotabad, Pakistan reported 15 cases of endometrial hyperplasia among 100 perimenopausal women. Similarly Khare *et al.*<sup>17</sup> in their study also showed that simple endometrial hyperplasia without atypia and proliferative endometrium were the most common histological findings in perimenopausal women, together accounting for 24 out of 47, that is, 51% of the cases.<sup>17</sup>

Atrophic endometrium is the most common cause of bleeding in postmenopausal stage.<sup>18</sup> Thin walled veins, superficial to the expanding cystic glands, make the vessels vulnerable to injury and lead to excessive uterine bleeding.<sup>19</sup>

Atrophic endometrium was seen in 6.66% of the patients in this study and they presented as postmenopausal bleed. A similar incidence was reported in other studies with incidences of 4.34% and 7%, respectively

Five (11%) cases showed adenocarcinoma out of which 04 cases showed moderate differentiation while one case showed papillary pattern. The most common presentation in these patients was postmenopausal bleeding and incidence of endometrial carcinoma was 21.73% in the postmenopausal group. This was similar to that reported by Baral *et al.* with an incidence of 21%.<sup>19</sup> Nulliparity, increased BMI, and chronic anovulation have been implicated as risk factors for endometrial carcinoma.

## CONCLUSION

Dysfunctional uterine bleeding in perimenopausal women is most common complaint. Clinical information regarding age, menstrual history, parity, and imaging studies are important prerequisites in the interpretation of endometrial samples. Endometrial sampling by dilatation and curettage is an effective and reliable diagnostic test. Endometrial curettage also plays an important role in perimenopausal women presenting with atypical

uterine bleeding in the timely diagnosis of preneoplasia and malignancy. Accurate analysis of endometrial samplings is therefore, the key to effective therapy and optimal outcome. Thus, histopathological evaluation of endometrium is especially indicated in women over the age of 45 years to rule out preneoplastic lesions and malignancies.

## Conflict of Interest

None declared.

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