ORIGINAL ARTICLE

Clinicopathological Spectrum of Endometrium in Abnormal Uterine Bleeding: Study in a tertiary care hospital in Lahore

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ABSTRACT

Aim: To study the clinicopathological spectrum of endometrium in females presenting with abnormal uterine bleeding.
Study design: Descriptive cross sectional study
Setting & duration: The study was carried out for a period of 2 years, from March 2014 to March 2016 in Lady Willingdon Hospital, Lahore.
Sample size: 370 cases presenting with AUB were included.
Sampling technique: Convenience sampling
Methods: Histopathological inspection of dilatation and curettage (D&C) samples was carried out to diagnose the underlying pathology causing AUB.
Results: The data was categorized in pre, peri and postmenopausal age groups. Two hundred and forty cases (64.8%) were in premenopausal age group, 93 cases (25.1%) in perimenopausal age group and 37 cases (10%) in postmenopausal age group. In premeopausal age group, proliferative endometrium was the most frequent finding (48%) followed by secretory endometrium (31%). In perimenopausal group, simple hyperplasia was the most common finding (41%). This was followed by proliferative (29%) and secretory endometrium (17%). In postmenopausal age group, most common pathology was complex hyperplasia seen in 33.3% cases, followed by atrophic endometrium 27%
Conclusion: Histopathological examination plays a vital role in the diagnosis of females who present with AUB. It assists in the early diagnosis of premalignant and malignant lesions of the endometrium which happen to have an excellent prognosis if diagnosed in early stages.
Keywords: Abnormal uterine bleeding, hyperplasia, adenocarcinoma

INTRODUCTION

Abnormal uterine bleeding (AUB) is believed to be one of the commonest and challenging problems that a gynecologist comes across. Nearly one third of the visits to a gynecologist are due to AUB. The causes may include pregnancy, anovulation, fibroids, polyps, adenomyosis hormonal imbalance, certain drugs or neoplasia. (1) AUB prevalence Pakistan is around 5-15%. Fifty percent of females by age 45.5 years, 75% by age 47.8 years & 95% by age 50.8 years undergo menstrual irregularity[2]. Both organic and inorganic causes of uterine bleeding are included in AUB. Endometrial biopsy or curettage is the gold standard in effective diagnosis of AUB after ruling out medical causes[3]. AUB without anatomical pathology has been observed in females of all age groups but is more prevalent in premenopausal females[4]. Management of AUB is not possible without tissue biopsy particularly in older age groups[5]. The aim of study was to evaluate AUB in various age groups and carry out histopathological study of the endometrium.

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MATERIALS AND METHODS

This study was carried out in Lady Willingdon Hospital, Lahore, between March, 2014 and March 2016. 370 cases of AUB were included in the study. Endometrial tissue collected by sampling procedures such as endometrial biopsy and dilatation and curettage (D&C) were sent to the pathology lab for evaluation. The gross morphology was recorded and the total tissue submitted was processed. Paraffin block were prepared and tissue section (4-6µ) were cut. The sections were stained with hematoxylin and eosin stain (H&E) and sent for microscopic examination by the pathologist.

RESULTS

Out of 370 cases, 240 cases (65%) were in reproductive age group, 93 cases (25.1%) were of perimenopausal group and 37 cases (10%) belonged to the postmenopausal group. For all cases clinically diagnosed as DUB, histopathological examination was done and findings were noted. In reproductive age group, proliferative endometrium was the most common finding observed in 115 cases (48%) followed by secretory endometrium in 75 cases (31%). Complex hyperplasia was present in 12 cases (5%), out of which 2 cases showed atypia. Endometritis was seen in 38 cases (16%). No case of

malignancy was reported in this group (Table I). In perimenopausal age group, simple hyperplasia was the most frequent finding seen in 38 cases (41%) followed by proliferative and secretory endometrium which were present in 27(29%) and 16 (17%) cases respectively. Complex hyperplasia was present in 6 cases, out of which 2 revealed atypia. 6 cases (6.4%) of malignancy were also observed (Table II). In postmenopausal age group, most frequent finding was complex hyperplasia, seen in 12 cases (33%), out of which 4 cases showed atypia followed by atrophic endometrium seen in 10 cases (27%). Nine cases (25%) were of simple hyperplasia and 6 cases (16.7%) of malignancy were observed. All cases of malignancy were reported as endometrial adenocarcinoma. (Table III).

Table 1: Endometrial pattern in reproductive age group

Premenopausal group	**n**	**%age**
Proliferative endometrium	115	48
Secretory endometrium	75	31
Complex hyperplasia	12	5
Chronic Endometritis	38	16.4
Malignancy	0	0

Table 2: Endometrial pattern in perimenopausal age group

Perimenopausal group	**n**	**%age**
Simple hyperplasia	38	41
Proliferative endometrium	27	29
Secretory endometrium	16	17
Malignancy	6	6.4
Complex Hyperplasia	6	6.4

Table 3: Endometrial pattern in post menopausal group

Postmenopausal Group	**n**	**%age**
Complex hyperplasia	12	33
Simple hyperplasia	9	25
Malignancy	6	16.7
Atrophic endometrium	10	27

DISCUSSION

All over the world, the most common gynecological problems that affect women are endometrial disorders. These disorders have considerably increased morbidity and mortality in women of all age groups. Majority of the women with endometrial disorders report to the clinician with abnormal uterine bleeding which has been defined in the literature as excessive, irregular bleeding from uterus typically related to either hormonal imbalance or intrauterine pathology. In females of reproductive age group, thorough history, detailed physical examination and proper investigations happen to be the major tools to exclude causes of AUB, for example pregnancy and conditions related to pregnancy, certain medications, anatomical defects in genital tract and dysfunctional uterine bleeding which is labeled when all other causes have been ruled out[6,7]. The endometrial pathologies range from proliferative and secretory endometrium through simple endometrial hyperplasia to more complex disorders, including endometrial carcinoma. Diagnosis on histopathology of endometrial biopsy and curettage is of utmost significance in identification of the various causes of AUB. The causes vary with respect to the age of patients. Endometrial sampling is the only way to diagnose most of these lesions[7]. The causes differ according to the age of patients. In this study, most of the patients were found to be in pre menopausal age group (18-40 years) followed by perimenopausal (41-50 years) and post menopausal group (51 years and above). Age of the patient was a major factor leading to the histological progression as it was unequivocally related to growing aggressiveness of endometrial lesions as further complex pathologies were observed in peri and postmenopausal age groups in comparison with the reproductive age group. This is in concordance with the study carried out by Abid et al which showed similar results[8].

In our study most of the cases in premenopausal group were of proliferative endometrium followed by secretory endometrium. This result supports the findings of Doraiswami et al according to whose study the most frequent endometrial pathology in patients of reproductive age was proliferative endometrium[3]. However a study carried out by Sarwar et al, revealed that the most frequent observation in pre and perimenopausal age groups was related to hormonal imbalance while in postmenopausal group the most frequent pathology was atrophy of the endometrium[9]. These findings are in contrast to our study in which the most common morphology in post menopausal group was complex hyperplasia followed by atrophic endometrium.

Gredmark et al carried out a study on endometrial samples of 457 postmenopausal females and found atrophic changes in 50% of cases, varying extent of hyperplasia in 10% and malignancy in 8% of the cases[10]. In our study, the most common morphology in postmenopausal endometrium was complex hyperplasia seen in 12 cases (33%) out of which 4 cases showed atypia followed by atrophic endometrium. Simple hyperplasia and malignancy were other common causes. This inconsistency may be owing to a relatively smaller sample size in this study. In a series of 50 cases studied by Jillani et al, 15 (30%) cases were malignant whereas benign pathology was observed in 24(48%) cases[11]. Dangal et al noted 84 females older than 45 years who reported with AUB. The perimenopusal group of females showed proliferative endometrium in 15 cases (38.5%), secretory endometrium and endometrial hyperplasia in 9 cases (23%) each whereas in the current study, majority cases in this group had simple hyperplasia (41%) followed by proliferative endometrium (29%). This disparity may be due to the fact that in this age group, menstrual

cycles frequently happen to be irregular as a result of fewer follicles which are more resistant to gonadotropic stimulation, leading to lower estrogen levels, which is insufficient for endometrial growth. Among the postmenopausal females, endometrial atrophy was the most frequent morphology seen in 29 cases (64.4%) followed by endometrial carcinoma in 8 cases (17.7%) and endometritis in 5 cases (11.1%)[12]. Another study by Hsu CY et al also observed that the most common cause of AUB in post menopausal females was due to atrophy followed by exogenous hormonal imbalance[13] but in the current study, most commonly occurring finding in postmenopausal women was complex hyperplasia seen in 12 cases (33%) followed by atrophic endometrium in 10(27%) and simple hyperplasia in 9(25%) of cases.

In a study by Baral et al, the most commonly noted endometrial morphology was disordered proliferative endometrium followed by chronic endometritis. Most of the patients with hyperplasias fell in the perimenopausal age group. This is comparable to our observations as the current study also showed that the incidence of hyperplasia peaked in females in peri and post menopausal groups. (14) This can be attributed to the effect of exogenous hormones as perimenopausal females are frequently getting hormonal therapy for various problems due to menopause[15]. In our study, in the peri-menopausal age group, the most common finding was complex hyperplasia (41%) followed by proliferative endometrium (29%). This is in alliance with the study by Bhatta S who reported 29.16% of proliferative endometrium among peri-menopausal group of patients[16]. According to a study, in post-menopausal group 6 cases of proliferative endometrium were seen[17] and comparable findings were also noted by Bhatta S[16]. However, Khare et al did not observe any case of proliferative endometrium in postmenopausal age group (1) similar to the current study in which no case of proliferative endometrium was seen in the post menopausal group.

In our study, we discerned that endometrial cancer was most frequently seen in postmenopausal age group however its frequency was only 16.7% which is comparable to the Nepalese study which showed endometrial carcinoma in 17.6% cases[12].

CONCLUSION

Histopathological evaluation of endometrial sample in women with with AUB has a vital role in the diagnosis of different histological patterns. Therefore, histopathological examination is of paramount importance particularly in women of peri-menopausal and post-menopausal age groups who present with AUB. Due to the preneoplastic nature, the hyperplasias, especially complex hyperplasia with atypia has to be detected early. Histopathology of endometrium gives us a chance to diagnose cases in which organic lesions like polyps, hyperplasia can be identified and assists in the early diagnosis of premalignant and malignant lesions of the endometrium as well which happen to have an excellent prognosis if diagnosed in early stages.

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