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ENDOMETRIAL HISTOPATHOLOGY IN ABNORMAL UTERINE BLEEDING: A RETROSPECTIVE ANALYSIS

Pathology

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ABSTRACT

BACKGROUND: Abnormal uterine bleeding (AUB) is one of the commonest complaints in women and is an important symptom of both benign and malignant diseases. Histopathological evaluation of endometrium plays a pivotal role in the diagnosis and management of endometrial causes of Abnormal Uterine Bleeding. This study was carried out to evaluate patterns of endometrial histological findings in women with abnormal uterine bleeding

AIM/OBJECTIVES: To determine the types and frequencies of endometrial pathologies in patients presenting with AUB at our hospital

MATERIAL AND METHODS: This retrospective study was carried out in the Department of Pathology over a period of two years. Seven hundred patients with abnormal uterine bleeding underwent endometrial biopsy/hysterectomy. The slides stained with Hematoxylin and Eosin stain were studied.

RESULTS: AUB was most prevalent in the perimenopausal age group. Secretory endometrium was the commonest histopathological finding (23.4%) followed by Simple hyperplasia (16.0%). Malignancy was detected in 1.7% of cases and endometrial carcinoma was the most common malignant lesion (1.4%).

CONCLUSIONS: Histopathological examination of endometrium should be routinely performed in women presenting with abnormal uterine bleeding especially in perimenopausal and post menopausal women to diagnose premalignant conditions and malignancy

KEYWORDS

Histopathology; Endometrium; Abnormal Uterine Bleeding; Malignancy

INTRODUCTION:

Endometrial diseases are prevalent across all age groups and are a common cause of increased morbidity and mortality [1]. Majority of females with endometrial diseases present with Abnormal uterine bleeding (AUB) [2]. AUB is a term to describe any bleeding that does not fall within the normal ranges for amount, frequency, duration, or cyclicity and common presentations of AUB include menorrhagia, polymenorrhea, metrorrhagia, and intermenstrual bleeding [1]. AUB interferes significantly with quality of life in women. Evaluation of endometrial biopsy is quite challenging for practicing pathologists due to the wide range of morphologic patterns resulting from both normal and abnormal changes, exogenous hormones, infections and intrauterine tumors [3].

Histological characteristics of endometrial biopsy material on light microscopy remain the gold standard diagnostic procedure for the clinical diagnosis of endometrial pathology. Accurate histopath ological diagnosis facilitates the implementation of optimal treatment strategy for patient management. The underlying 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 commoner in younger patients, whereas atrophy and organic lesions are more frequent in older individuals [4]. Patients with a history of anovulation, obesity, hypertension, diabetes, and exogenous estrogen use are at an increased risk for hyperplasia and adenocarcinoma [5]. Early evaluation in the perimenopausal and postmenopausal women is essential to confirm the exact nature of the lesion and to rule out malignancy [4].

MATERIAL AND METHODS:

This retrospective study was conducted for a period of 2 years (2016-2018) in department of pathology, GMC, Jammu. The study includes endometrial biopsies and hysterectomy specimens of patients with history of abnormal uterine bleeding received in the department of pathology. Patients with hemostatic disorders, isolated cervical or vaginal pathology, leiomyoma and adenomyosis were excluded. Relevant clinical data, physical and gynaecological examination findings, lab investigation results and sonological findings were obtained from case records. All the specimens were fixed in 10% formalin, processed and embedded in paraffin, and 3-4 µ thick sections were made. Sections were stained with hematoxylin and eosin stain. A total of 700 cases were analyzed and histological diagnosis was made. Data obtained was analysed in the form of percentages and proportions and represented as tables and figures where necessary.

RESULTS:

Total of 700 endometrial specimens with a clinical diagnosis of AUB were included in the study. Patients' age ranged from 32 to 73 years and majority of them were seen in the age group of 46-55 years, followed by 36-45 years. The commonest histopathology observed in our study was secretory endometrium (23.4%). Simple Endometrial hyperplasia was the next commonest pathology (16.0%) followed by proliferative endometrium (15.1%), atrophic endometrium (13.7%) and endometrial polyps (10.9%). Malignancy was detected in 1.7% of cases and endometrial carcinoma was the most common malignant lesion (1.4%). Endometrial polyp was the commonest pattern seen in the age group ≤35 years. Between 36-45 years, secretory pattern was the most common followed by proliferative change. In the 46-55 age group, endometrial hyperplasia was the most common pattern followed by disordered proliferative pattern. Majority of the malignant lesions presented after age of 55 years.

DISCUSSION:

AUB accounts for almost 25% of gynaecological operations and 20% of outpatient visits [6]. In this study, we analysed the histopathology of endometrium to identify the endometrial causes and also observe the incidence of various pathologies. In our study, maximum incidence of AUB was in the 46-55 years age group followed by 36-45 years age group. Results of our study were comparable with previous studies who have found a maximum incidence of AUB in the perimenopausal age group [7-10]. Perimenopause is defined by the WHO as the 2-8 years preceding menopause and the 1 year after the final menstruation. As women approach menopause, cycles shorten and often become intermittently anovulatory due to a decline in the number of ovarian follicles and fluctuations in the estradiol level leading to various patterns of abnormal bleeding [5]. Menorrhagia was the commonest complaint in our study, similar to previous studies [7,9,10,11].

Maximum incidence of normal physiological changes in endometrium was seen in 36-45 years age group [1]. Secretory endometrium was the commonest finding in our study seen in 23.4% cases. Nearly similar incidence of secretory pattern was noted in previous studies [1,4,9]. The bleeding in secretory phase is due to ovulatory dysfunctional uterine bleeding and is characterized by regular episodes of heavy menstrual blood loss [1]. Proliferative pattern of endometrium in our study was observed in 15.1% patients. The pattern was most commonly seen in late reproductive and perimenopausal women and is

likely attributed to hormonal imbalances in this age group leading to intermittent anovulatory cycles.

Simple Endometrial hyperplasia was seen in 16.0 % cases and was the second commonest histological finding observed in our study. Similar incidence has also been reported in previous studies [10,12]. Complex hyperplasia without atypia was seen in 1.1% cases while complex hyperplasia with atypia was seen in 0.9% cases. Identification of endometrial hyperplasia is important because it is believed to be a precursor of endometrial carcinoma [8]. The overall risk of progression of hyperplasia to cancer is 5-10% [13]. Simple hyperplasia, complex hyperplasia and complex atypical hyperplasia have progression risks of 1%, 3% and 29% to malignancy respectively [13].

Disordered proliferative endometrium was seen in 1.4% cases and majority of them were perimenopausal women. It represents exaggeration of the normal proliferative phase without significant increase in the overall glands to stromal ratio and is due to persistent oestrogen stimulation [5]. It differs from the normal proliferative endometrium in the absence of uniform glandular development [4]. Disordered proliferative pattern lies at one end of the spectrum of proliferative lesions of the endometrium that includes carcinoma at the other end with intervening stages of hyperplasias [8].

Atrophic endometrium was seen in 13.7% cases in our study and the results were significantly higher as compared to previous studies [4,14]. It is the commonest cause of bleeding in postmenopausal stage [14]. The other benign patterns included endometrial polyps (10.4%), products of conception (4.0%), pill endometrium (3.4%) and endometritis (1.4%). The results were nearly similar to previous studies [1,4].

Malignant pathologies observed in our study included 10 cases of endometrial carcinoma and two cases of low-grade endometrial stromal sarcoma. The commonest type of endometrial carcinoma was endometrioid type seen in 8 cases. Two cases of serous carcinoma were also seen. Post menopausal Bleeding was the presenting complaints in majority of these cases. Two patients with low-grade Endometrial Stromal Sarcomas were also seen in our study, similar to previous studies [4].

CONCLUSIONS:

Study of endometrial histopathology in perimenopausal and postmenopausal women with abnormal uterine bleeding should be routinely performed. Endometrial biopsy has been the methods of choice for the diagnosis of endometrial cancer in patients with peri and postmenopausal bleeding. It is extremely helpful to diagnose premalignant and malignant pathologies of endometrium. It also reveals various endometrial patterns ranging from proliferative, secretory, simple and complex hyperplasia with/without atypia, disordered proliferation and atrophic endometrium.

Conflicts of Interest: Nil
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Tables:
Table 1: Distribution of Endometrial Pattern on Histopathology

Endometrial Histopathology	No of Patients	Percentage
1. Proliferative phase endometrium	106	15.1
2. Secretory phase endometrium	164	23.4
3. Products of conception	32	4.6
4. Pill Endometrium	24	3.4
5. Disordered Proliferative Endometrium	10	1.4
6. Atrophic endometrium	96	13.7
7. Endometritis	10	1.4
8. Endometrial polyps	76	10.9
9. Simple Hyperplasia	112	16.0
10. Complex Hyperplasia without Atypia	8	1.1
11. Complex Hyperplasia with Atypia	6	0.9
11. Endometrial carcinoma	10	1.4
12. Endometrial Stromal Sarcoma	2	0.3
12. Inadequate	44	6.3
Total	700	100

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