Original article:

Study of Endometrial Histopathological Findings in Women with Abnormal Uterine Bleeding and Correlation with Clinical Features

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Abstract

Introduction: Endometrium is a hormonally sensitive and responsive tissue which constantly undergoes changes during the active reproductive life. The endometrium is uniquely endowed throughout the female reproductive lifespan with complex regular cycle of periodic proliferation, differentiation, breakdown, and regeneration.Women suffers from many gynaecological diseases.Abnormal Uterine Bleeding (AUB) is a common condition affecting the women of reproductive age that has a significant social and economic impact.

Material and Methods: This is a prospective study on histopathology of endometrium in patients presenting with abnormal uterine bleeding, undertaken in the department of pathology in duration of 1 year total 100 patients were studied.. The biopsies and the hysterectomy specimens were immediately fixed in 10 % phosphate buffered formalin for 24 - 48 hours. After gross examination, the endometrial samples were totally submitted andrepresentative sections were submitted from the hysterectomy specimens and the samples were processed using automatic tissue processor.The diagnosis was made based on hematoxylin and eosin stained sections.

Results: The present study comprised a total of 100 cases of endometrial lesions and the age of the patients ranged from 21-78 years.The commonest pathology in these patients was proliferative endometrium 33 (33%), followed by simple cystic hyperplasia 13 (13%), secretory endometrium 12 ((12%), endometrial polyp 10 (10%), complex hyperplasia without atypia 07 (07%),pill endometrium 06 (06%), endometrial carcinoma 05 (5%), ,complex hyperplasia with atypia 05 (05%),atrophic endometrium 05 (05%),endometritis 03 (03%), and adenomatous hyperplasia 01(1%). In women under 40 years of age proliferative endometrium was found in 33 cases (33%) patients and secretory endometrium in 12 cases (12%) patients. Endometrial polyp 10 (10%), pill endometrium 06 (06%) and endometritis 03 (03%).

Conclusion: Postmenopausal bleeding declined with increasing age and endometritis was the most common finding.Hence it is imperative to determine the exact pathology in endometrial biopsy specimen so that appropriate therapy can be planned accordingly for the treatment of infertility, endometrial hyperplasia, endometrial carcinoma and various other causes of abnormal uterine bleeding.

Keywords: Endometrium, Postmenopausal Bleeding, Endometrial Carcinoma.

INTRODUCTION

Endometrium is a hormonally sensitive and responsive tissue which constantly undergoes changes during the active reproductive life. The endometrium is uniquely endowed throughout the female reproductive lifespan

with complex regular cycle of periodic proliferation, differentiation, breakdown, and regeneration.[1] Women suffers from many gynaecological diseases.

Abnormal Uterine Bleeding (AUB) is a common condition affecting the women of reproductive age that has a significant social and economic impact.[2]AUB is a symptom and not a disease. It occurs in various forms.[3]Abnormal uterine bleeding is defined as a bleeding pattern that differs in frequency, duration and amount from a pattern observed during a normal menstrual cycle. The main duration of menses is 4.7 days; 89% of cycles last 7 days or longer. The average blood loss per cycle is 35ml.[4]

Abnormal uterine bleeding is one of the most frequently encountered and perplexing condition in adult women.[5]AUB not associated with an organic cause is referred as Dysfunctional Uterine Bleeding (DUB). The AUB is one of the commonest complaints leading toendometrial sampling.Below the age of 20 years the disturbance is most likely to be a functional one. In active reproductive life an organic cause for bleeding is more likely, pregnancy- related conditions being the most common. After the age of 40 years, functional disorders are common but the possibility of a growth, benign or malignant, must be excluded. After the menopause, a local organic cause (the most common being cancer) is often present.[6]The AUB due to organic reasons were managed by hysterectomy.

It may represent a possible endocrine dysfunction, resulting in menorrhagia or metrorrhagia. Mid-cycle bleeding may indicate a transient estrogen decline, while late-cycle bleeding may indicate progesterone deficiency. Bleeding in any of the following situations is abnormal: • Bleeding between periods • Bleeding after sex • Spotting anytime in the menstrual cycle • Bleeding heavier or for more days than normal • Bleeding after menopause Menstrual cycles that are longer than 35 days or shorter than 21 days are abnormal. The lack of periods for 3–6 months (amenorrhea) also is abnormal.

The causes of bleeding in elderly women are hormonal and more importantly local pathology including malignancy, benign tumours and infections. While DUB is responsible for most cases of abnormal uterine bleeding in the adolescent age group, the incidence of structural pathology increases in other age groups. Endometrial malignancy is an important cause of menstrual disorder even though it is rare. Overall the incidence of endometrial cancer is 14.3 per 100,000 women years and it is even less common among premenopausal women.[7,8]The importance of endometrial biopsy or curettage done to obtain material for histopathological evaluation, to aid in diagnosis and further management, cannot be overemphasized especially in perimenopausal females who are at a risk of developing malignancy.[9]The aim of the present study was to analyse the histomorphological patternof endometrium in cases of AUB in different age groups.

MATERIALS AND METHODS

This is a prospective study on histopathology of endometrium in patients presenting with Abnormal uterine bleeding, undertaken in the department of pathology SGRRIMHS, Dehradun, for a duration of 1 year total 100 patients were studied. The gross morphology was recorded and the total tissue submitted was processed. The biopsies and the hysterectomy specimens were immediately fixed in 10 % phosphate buffered formalin for 24 - 48 hours. After gross examination, the endometrial samples were totally submitted andrepresentative sections were submitted from the hysterectomy specimens and the samples were processed using automatic tissue processor. Paraffin sections of 5 micrometer thickness were made, stained and mounted on glass slides. The diagnosis was made based on hematoxylin and eosin stained sections.

RESULTS

The present study comprised a total of 100 cases of endometrial lesions and the age of the patients ranged from 21-78 years as shown in the table 1and figure 1.The commonest pathology in these patients as shown in table 2 was proliferative endometrium 33 (33%), followed by simple cystic hyperplasia 13 (13%), secretory endometrium 12 ((12%), endometrial polyp 10 (10%), complex hyperplasia without atypia 07 (07%),pill endometrium 06 (06%), endometrial carcinoma 05 (5%), ,complex hyperplasia with atypia 05 (05%),atrophic endometrium 05 (05%),endometritis 03 (03%), and adenomatous hyperplasia 01(1%). In women under 40 years of age proliferative endometrium was found in 33 cases (33%) patients and secretoryendometrium in 12 cases (12%) patients. Endometrial polyp 10 (10%), pill endometrium 06 (06%) and endometritis 03 (03%).

Table 1: Age Wise Distribution of Cases

Age group	Number of cases	Percentage (%)
20-29	05	05
30-39	26	26
40-49	43	43
50-59	12	12
60-69	09	09
>70	05	05
Total	100	100

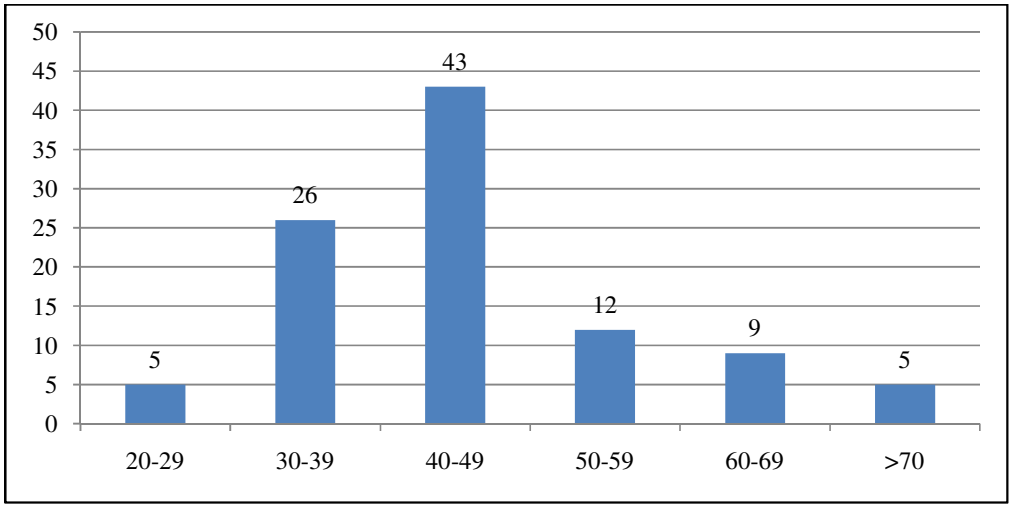

Figure 1: Distribution of patients according to age groups

Table 2: Histopathological Lesions of Endometrium

Endometrium Pattern	Number of cases	Percentage (%)
Proliferative Endometrium	33	33
Simple Cystic Hyperplasia	13	13
Secretory Endometrium	12	12
Endometrial Polyp	10	10
Complex Hyperplasia Without Atypia	07	07
Pill Endometrium	06	06
Complex Hyperplasia With Atypia	05	05
Endometrial Carcinoma	05	05
Atrophic Endometrium	05	05
Endometritis	03	03
Adenomatous Hyperplasia	01	01
Total	100	100

DISCUSSION

The problem of AUB in the absence of overt uterine pathology, endocrine or hematological disorder is a common reason for consultation in gynecology OPD.[10]AUB occurs in women of all ages but is more common in adolescent and perimenopausal women.[11]In perimenopausal years anovulatory cycle is most frequent which in turn causes changes in endometrium, which results in irregular bleeding. Chronic anovulation is associated with an irregular and unpredictable pattern of bleeding ranging from short cycles with scanty bleeding to prolonged period with irregular heavy loss. Normal bleeding occurs in response to withdrawal of both progesterone and oestradiol. If ovulation doesn't occur then the absence of progesterone results in an absence of secretory change in the endometrium, accompanied by abnormalities in the production of steroid receptors,prostaglandins and other locally active endometrial products. Unopposed estrogen gives rise to persistent proliferative or hyperplastic endometrium and estrogen withdrawal bleeding is characteristically painless and irregular In the present study the commonest age group presenting with AUB was 40-50 years (59.31%). Muzaffar M[12] also reported comparable data with our study being 48%. The most common endometrial patterns in different age groups mainly under 40 years were proliferative (33%) and secretory endometrium (12%) similar to the studies conducted by Idrisa A[13]who reported 8.60% as proliferative pattern and 47.10% as secretory endometrium. Disordered proliferative endometrium indicates anovulatory cycles and is common in perimenopausal, postmenopausal age group and patients on exogenous estrogen therapy.The overall risk of progression of hyperplasia to cancer is 5-10%.[14]The incidence of endometrial polyps in our study is 9.3% which is similar to that seen in Acharya et al which is 10%.This pattern was predominantly seen in the perimenopausal age group. This was probably due to increased number of patients in this age resorting to early medical management for bleeding. In our study only one case of endometrial carcinoma was found and the case was multiparous women. The lower incidence of carcinoma in our study may be due to inadequate sampling, not recognizing

morphological pattern .So further more studies are required to identify cases of carcinoma. Higher incidence of carcinoma have been reported.[16]

Anovulatory Dysfunctional uterine bleeding is due to disturbance of hypothalamic- pituitary- ovarian axis that causes irregular, prolonged and at times heavy menstrual flow.[17]Most common histopathological finding was proliferative phase and the most common abnormality detected was retained products of conception in 31- 49 years age group. Most common histopathological finding in 40- 49 years age group was also proliferative phase and the most common abnormality detected was endometrial hyperplasia. In 51- 69 years and >70years age groups, endometrial carcinoma constituted the most common pathology followed by endometrial hyperplasia.

CONCLUSION

Endometrial lesions vary according to the patient's age. Anovulatory bleeding was common especially in premenopausal women. Endometrial sampling by Dilatation and Curettage is an effective and reliable diagnostic test. There is an age specific association of AUB with increase incidence in perimenopausal age group. Postmenopausal bleeding declined with increasing age and endometritis was the most common finding.Hence it is imperative to determine the exact pathology in endometrial biopsy specimen so that appropriate therapy can be planned accordingly for the treatment of infertility, endometrial hyperplasia, endometrial carcinoma and various other causes of abnormal uterine bleeding.

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