

Original article:

Histopathological patterns of endometrium in abnormal uterine bleeding – a one year retrospective study

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ABSTRACT

Abnormal uterine bleeding is a common complaint in Gynaecology OPD. Histopathological evaluation of the endometrial specimens play an important role in the diagnosis of AUB. This retrospective study was undertaken in the Department of Pathology, GMC Jammu. The study was carried out to determine the histopathological patterns of endometrium in women of various age groups presenting with AUB. A total of 126 endometrial biopsies and curettings were analyzed. The age group of patients ranged from 18 to 75 years. This study was conducted to determine the type, frequency of endometrial pathology in women presenting with AUB and their association with different age groups. Histopathological examination of patients, endometrial curettings and biopsies in AUB showed a wide spectrum of changes ranging from normal endometrium to malignancy. Endometrial evaluation is particularly recommended in perimenopausal and postmenopausal age groups presenting with AUB to rule out a possibility of preneoplastic condition or malignancy.

Key words- Abnormal uterine bleeding, endometrium, malignancy.

INTRODUCTION

Abnormal uterine bleeding (AUB) may be defined as bleeding pattern that differs in frequency, duration and amount from a pattern observed during a normal menstrual cycle or after menopause.(17) The abnormal bleeding can be caused by a wide variety of disorders and may be the common presenting complaint in patients with malignancy or premalignant endometrial lesions. (4,14) It is a common problem having a long list of causes in different age groups. (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 risk of developing malignancy (4). The endometrial sample provides a tissue diagnosis for wide range of morphological patterns resulting from both normal and abnormal changes like hyperplasia, carcinoma, exogenous hormonal effects and infection (9,16). Examination of endometrial biopsy is thus a challenge to a gynaecologist as well as to pathologist because of wide range of morphological patterns (3). Endometrial diseases are prevalent across all age groups and to a great extent are a leading cause of increased maternal morbidity and mortality. The majority of females with endometrial diseases present with abnormal uterine bleeding (AUB). Thus, AUB calls for the need of urgent diagnosis (19). It is the common reason for women of all ages to consult their gynaecologist and is one of the most common debilitating menstrual problems that has remained one of the most frequent indication for hysterectomy in developing countries. It includes both organic and inorganic causes (18). AUB is thus an important symptom of both benign and serious gynaecological diseases. Early evaluations of abnormal uterine bleeding in the perimenopausal

and postmenopausal women is essential to confirm the exact nature of the lesion and rule out malignancy (21). This study was carried out to determine the histopathological patterns of endometrium in women of various age groups presenting with AUB and thereby guiding the clinician to make a definitive diagnosis and treat the cause.

MATERIALS AND METHODS

This was a retrospective study carried out in the Department of Pathology, GMC, Jammu from March 2018 to Feb 2019 for a period of one year. All women in the age group of 18 years and above who had presented with abnormal uterine bleeding and had undergone endometrial biopsy and curettage were included in the study. A total of 126 patients presenting with AUB over a period of one year were taken. Patients were categorized into following age groups - reproductive (18 -40 yrs), perimenopausal (41 -50 yrs) and postmenopausal (> 50 yrs). Histopathological findings of AUB were categorized into functional and organic causes. The functional causes included were normal cyclical phase (Proliferative and Secretory) of endometrium and other abnormal physiological changes (Atrophic endometrium, disordered proliferative endometrium and Pill endometrium). Organic intrauterine lesions which were cause of AUB included chronic endometritis, hyperplasia, polyp and carcinoma. Endometrial specimens were obtained by either biopsy or curettage and fixed in 10% Formalin. The specimens were processed routinely and stained with Hematoxylin and Eosin (H &E). Data was collected and analyzed for frequency, percentage and results were presented through tables.

RESULTS

TABLE-1

Distribution of Cases According to Cause

CAUSE	TOTAL	PERCENTAGE
Functional	80	63.5
Organic	46	36.5
Total	126	100

A total 126 endometrial biopsies and curettings from patients with AUB (abnormal uterine bleeding) were analyzed. 80 cases (63.5%) were due functional causes as no organic pathology was found, while 46 cases (36.5%) showed definite endometrial pathology. (TABLE-1).

TABLE-2

Age group of patients presenting with AUB.

AGE GROUP (YEARS)	TOTAL	PERCENTAGE
18-40 (Reproductive)	44	34.92
41-50 (Perimenopausal)	58	46.04
>50 (Postmenopausal)	24	19.04
Total	126	100

Maximum number of patients were in the age group of 41 to 50 yrs. A total of 58 (46.04%) patients presenting with AUB were seen in perimenopausal age group followed by 44 (34.92%) patients in the reproductive age group.

TABLE -3

Endometrial Patterns on Histopathology

Endometrial patterns	Age group (Years)			Total	%age
	18-40	41-50	>50		
Proliferative	8	14	4	26	20.6
Secretory	16	11	5	32	25.4
Atrophic	-	1	5	6	4.8
Disordered Proliferative	7	8	1	16	12.7
Chronic Endometritis	3	8	1	12	9.5
Endometrial Polyp	1	2	2	5	4.0
Simple hyperplasia without atypia	3	7	2	12	9.5
Simple hyperplasia with atypia	-	2	-	2	1.6
Complex hyperplasia without atypia	-	1	1	2	1.6
Complex hyperplasia with atypia	-	-	1	1	0.8
Pill Endometrium	6	4	-	10	7.9
Endometrial Carcinoma	-	-	2	2	1.6
Total	44	58	24	126	100

Histopathological examination of the endometrium showed various endometrial patterns in AUB. Proliferative and Secretory pattern of normal cyclical endometrium were most commonly seen in 58 cases (46.04%). Disordered Proliferative and Hyperplasia were next common, seen in 16 (12.7%) and 17 (13.5%) cases respectively. Both these patterns were common in perimenopausal age group, out of 17 cases there were 12 cases of Simple Hyperplasia without atypia and 2 cases of Complex Hyperplasia without atypia. Chronic endometritis and Pill endometrium were seen in 12 (9.5%) and 10 (7.9%) cases respectively. Atrophic

endometrium comprised of 6 (4.8%) cases which were in perimenopausal and menopausal age groups. Carcinoma was the cause of AUB in only 2 cases (1.6%), which were diagnosed after menopause.

DISCUSSION

Abnormal uterine bleeding is one of the most frequently encountered condition in gynaecology world over. It is of concern as it can have serious medical and social consequences by causing anaemia, disruption of women's daily activities and sexual life (20). The clinical differential diagnosis is different for various age groups and histopathological examination helps in the diagnosis of the disease presenting with AUB (abnormal uterine bleeding) (3).

Organic cause of AUB was determined in 36.5% cases of this study which is consistent with the data published by Ara et al (21.73%) and Moghal (22.5%) (11, 1). Endometrial hyperplasia is the most common cause among organic cause of AUB which is seen in 17 cases. Similar data was published by Anwar et al (5).

Abnormal and excessive endometrial bleeding occurs in reproductive women of all age groups but is more in adolescent and perimenopausal women (2). The most common age group presenting with AUB in this study was 41 -50 years. Similar observations were made by Doraiswami et al and Jairajpuri et al (13,15).

Histopathological examination of endometrial biopsies and curettings revealed various patterns ranging from physiological to pathological lesions of endometrium. In this study Proliferative and Secretory endometrium were the two most common histopathological patterns. Similar observation was made by the study by Abdullah et al (10). Together these patterns were seen in 58 cases. (46.04%). Data from similar studied vary from 28.3 - 53.9% (13,15). In normal cycles, the menstrual shedding is followed by endometrial proliferation under estrogenic stimulation. During this phase, the endometrial glands grow and become tortuous. The secretory activity in the second half of the cycle is characterized by endothelial proliferation, thickening of the wall and coiling of the spiral arterioles (20).

Atrophic endometrium comprised of 6 cases (4.8%) of AUB and was the most common in postmenopausal women. In other studies (13,15,10) incidence varied from 1.1 to 7%. The exact cause of bleeding in atrophic endometrium is not known. It is thought to be due to autonomic vascular variations or local abnormal defective local hemostatic mechanisms (13). Thin atrophic endometrium is prone to trivial injuries thereby leading to the rupture of underlying superficial dilated venules and can cause postmenopausal bleeding even in the absence of any organic lesion. In this study atrophic pattern constituted 4.8% cases, whereas in a study conducted by Ara et al, it was about 4.3% (12).

. Disordered proliferative pattern lies at one end of the spectrum of proliferative lesions of the endometrium that include carcinoma at the other end with the intervening stages of hyperplasia (20). In this study 16 cases (12.7%) were diagnosed while in the literature its incidence varies from 5.7 to 20.5% (13,15,10).

Chronic endometritis was diagnosed in 12 cases (9.5%). Higher incidence varying from 5.8 to 24% have been reported in the literature (15,10). It is often as a result of intrauterine contraceptive devices, pregnancy or incomplete abortion. (15).

Endometrial polyp was seen in 5 cases (4.0 %) in our study. Studies by Baral R and Zeeba et al showed an incidence of 1.3 to 1.7%. None of the polyps in our study showed atypical changes. (12,15).

Endometrial hyperplasia is the precursor of endometrial carcinoma. It is more commonly seen during perimenopausal period (7). It is a common diagnosis often causing symptom of irregular or prolonged bleeding. In this study hyperplasia was seen in 17 cases (13.50 %). Incidence was lower (5.7%) in study by Jairajpuri and

higher in studies by Baral et al (15,12). Effects of exogenous hormones (Pill endometrium) were seen in 7.9% of cases of AUB. In other studies, its incidence was lower and varied from 1.7% to 4.8%. (12). As in the other studies, Pill endometrium was commonly seen in the reproductive and perimenopausal age groups. Malignancy was seen in 2 cases (1.6%). Studies by Muzaffer et al showed the incidence to be 0.4%. (6).

CONCLUSION

AUB is a major health problem that adversely affects the lives of women of all age groups. Endometrial biopsy reveals endometrial patterns in various forms of AUB and helps to exclude any organic pathology. Though there are chances of interobserver variability, histopathological patterns of endometrial biopsy and curettage are variable. These changes range from simple physiological lesions to much more complex pathological lesions. Among patients with no organic pathology, normal physiological patterns with proliferative and secretory changes were more commonly observed. The incidence of endometrial hyperplasia and endometrial carcinoma were more common in the perimenopausal and postmenopausal women. Hence evaluation of the endometrium is particularly recommended in women of these age groups presenting with AUB, to rule out possibility of preneoplastic condition or malignancy. Endometrial sampling is the gold standard investigation in the evaluation of AUB thereby highlighting the importance of endometrial curettings and biopsy as a diagnostic procedure in the AUB evaluation in the perimenopausal and postmenopausal age groups to exclude preneoplastic and neoplastic conditions. Besides aiding in the diagnosis, it may help Physician to plan therapy for successful management of women presenting with AUB. Accurate analysis of endometrial sampling is thus the key to effective therapy and optimal outcome.

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