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Original Research Article

Study of endometrial histopathology in women with abnormal uterine bleeding

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ABSTRACT

Background: Abnormal uterine bleeding is a major gynaecological problem accounting for 33% of Gynaec outpatients. The cause of the bleeding is established in only 50-60% of the cases. The aim of this study was to evaluate the various histopathological patterns in the endometrial biopsy of patients presenting with abnormal uterine bleeding and to determine the specific pathology in the different age groups.
Methods: This was a prospective study done in a tertiary care teaching hospital for a period of 2 years. Total of 905 patients with abnormal uterine bleeding were included in the study and they were subjected to a Dilatation and Curettage. Histopathological examination of the endometrial biopsy was done and the various histopathological patterns identified and classified.
Results: The age of patients ranged from 24-74 years. 54.7% were in the age group 40-49 years followed by 23.4% in the age group 30-39 years. The most frequent findings were proliferative findings in 47.3% followed by secretory endometrium in 16.1 % patients. Proliferative endometrium was more common in the age group 40-49 years as also disordered proliferation, secretory endometrium, cystoglandular hyperplasia and endometrial hyperplasia.
Conclusions: Endometrial curettings and biopsy is an important diagnostic procedure for assessing all cases of abnormal uterine bleeding and to plan for successful management.

Keywords: Fetal distress, Hypertension in pregnancy, Stillbirths

INTRODUCTION

Abnormal Uterine Bleeding is defined as changes in frequency of menstruation, duration of flow or amount of blood loss.[1] It is a major gynaecological problem accounting for 33% of out patient referrals, including 69% of referrals in perimenopausal and postmenopausal age group.[2] This has negative impact on women's health and wellbeing including anemia, impacting their quality of life by impairing sexuality and leads to absenteeism and social embarrassment. Non-structural abnormal uterine bleeding or the formerly called dysfunctional menometrorrhagia is a frequent cause of abnormal uterine bleeding.[3] Because of its broad range of differential diagnosis, the diagnosis of abnormal uterine bleeding can be quite challenging. Despite a detailed history, various blood investigations and a thorough physical examination including transvaginal ultrasound, the cause of the bleeding is established in only 50-60%of the cases.[4] The causes of Abnormal uterine bleeding may be physiological, pathological or pharmacological.[5] It has been shown to be associated with almost any type of endometrium ranging from normal endometrium to hyperplasia, irregular ripening, chronic menstrual irregular shedding and atrophy.[6] The manifestation of various disease patterns can be detected by histological variations of the endometrium taking into account the age of the woman, the phase of her menstrual cycle and iatrogenic use of hormones. The Evaluation of endometrial biopsy requires understanding of important

clinical questions, realistic expectations, systematic and practical approach. The clinical expectations for each group are unique as are morphological patterns most commonly encountered.[7] Abnormal perimenopausal or postmenopausal bleeding is associated with endometrial cancer in approximately 10% of cases. Atypical endometrial hyperplasia is felt to be a precursor of endometrial cancer and may progress over time to endometrial cancer in 5-25% of patients. In addition, atypical endometrial hyperplasia is associated with a coexisting endometrial cancer in approximately 20% of patients.[8] The sensitivity of endometrial biopsy for the detection of endometrial abnormalities has been reported to be as high as 96%.[9] However, this office based procedure misses up to 18 % of focal lesions, including polyps and fibroids because only a small part of the endometrium may be sampled at one time.[10] Although endometrial biopsy has high sensitivity for endometrial carcinoma, its sensitivity for detecting atypical endometrial hyperplasia may be as low as 81%.[11,12]

The aim of this study was to evaluate the various histopathological patterns in the endometrial biopsy of patients presenting with abnormal uterine bleeding and to determine the specific pathology in the different age groups.

METHODS

This was a prospective hospital based study conducted in the Department of Obstetrics and Gynecology in a tertiary care teaching hospital over a period of two years from January 2015 to December 2016. A total of 905 patients presenting to the Gynecology OPD with abnormal uterine bleeding (menorrhagia, polymenorrhoea, irregular bleeding per vaginum, post-menopausal bleeding per vaginum) were included in this study.

A detailed history, systemic and gynecological examination was done for these patients. Baseline investigations and pelvic ultrasound were done. Informed written consent was taken from these patients and they were subjected to a dilatation and curettage in operation theatre. Specimens were sent to pathology department in 10% formalin. They were studied grossly and multiple sections taken. The specimens were processed in automated tissue processor. Four to six-micron thick paraffin embedded sections were taken and stained by haematoxylin and eosin. The slides were examined under microscope by the pathologist and the various histopathological patterns identified and classified. Data was collected and SPSS software was used for statistical analysis of data.

RESULTS

Total of 905 patients with Abnormal Uterine Bleeding were included in this study. The age of the patients ranged from 24-74 years.

Table 1: Age group of patients presenting with abnormal uterine bleeding.

Age group	Frequency	Percentage (%)
20-29	31	3.4
30-39	212	23.4
40-49	495	54.7
50-59	121	13.4
Above 60	46	5.1
total	905	100

Out of the 905 patients with abnormal uterine bleeding, maximum was in the age group 40-49 years- 54.7% (495 patients) followed by 23.4% (212 patients) in the age group 30-39 years. 13.4 % (121 patients) were in the age group 50-59 years and 3.4 % (31 Patients) were in the age group 20-29 years. There were around 46 patients (5.1%) in the age group above 60 years.

Table 2: Histopathological diagnosis of endometrial biopsy.

HPE Group	Frequency	Percentage
Proliferative endometrium	428	47.3
Secretory endometrium	146	16.1
Cystoglandular hyperplasia	84	9.3
Cystic atrophy	75	8.3
Disordered proliferation	56	6.2
Endometrial hyperplasia without atypia	49	5.4
Glandular hyperplasia without atypia	17	1.9
Mixed endometrial pattern	16	1.8
Endometrial polyp	10	1.1
Endometrial hyperplasia with atypia	7	0.8
Chronic endometritis	6	0.7
Retrogressive cystic hyperplasia	5	0.6
Glandular hyperplasia with atypia	2	0.2
Endometrial cancer	2	0.2
Cystoglandular hyperplasia with atypia	1	0.1
Senile cystic hyperplasia	1	0.1
Total	905	100

The most frequent histopathological finding was proliferative endometrium found in 428 patients (47.3 %) followed by secretory endometrium in 146 patients (16.1%). Cystoglandular hyperplasia was found in 84 patients (9.3%) and cystic atrophy in 75 patients (8.3%). Next common was disordered proliferation in 56 patients (6.2%) followed by endometrial hyperplasia without atypia in 49 patients (5.4%). The other histopathological

findings included glandular hyperplasia without atypia, mixed endometrial pattern, endometrial hyperplasia with atypia etc.

Out of the 905 patients, 2 patients (0.2%) had endometrial cancer. Endometrial polyp was identified in 10 patients (1.1%) with abnormal uterine bleeding.

Table 3: Histopathological diagnosis according to age group.

HPE group	20-29 years	30-39 Years	40-49 Years	50-59 Years	Above 60 years
	N (%)	N (%)	N (%)	N (%)	N (%)
Disordered proliferation	2 (3.6)	14 (25)	31 (55.4)	8 (14.3)	1 (1.8)
Mixed endometrial pattern	2 (12.5)	2 (12.5)	11 (68.8)	1 (6.3)	0
Proliferative endometrium	11 (2.6)	96 (22.4)	265 (61.9)	50 (11.7)	6 (1.4)
Chronic endometritis	0	0	4 (66.7)	1 (16.7)	1 (16.7)
Cystoglandular hyperplasia	5 (6)	19 (22.6)	46 (54.8)	10 (11.9)	4 (4.8)
Secretory endometrium	9 (6.2)	50 (34.2)	80 (54.8)	6 (4.1)	1 (0.7)
Cystic atrophy	0	3 (4)	14 (18.7)	28 (37.3)	30 (40)
Retrogressive cystic hyperplasia	0	0	1 (20)	2 (40)	2 (40)
Glandular hyperplasia with atypia	0	0	2 (100)	0	0
Glandular hyperplasia without atypia	1 (5.9)	5 (29.4)	8 (47.1)	3 (17.6)	0
Cystoglandular hyperplasia with atypia	0	0	1 (100)	0	0
Senile cystic hyperplasia	0	0	0	1 (100)	0
Endometrial hyperplasia with atypia	0	3 (42.9)	3 (42.9)	1 (14.3)	0
Endometrial polyp	0	2 (20)	6 (60)	2 (20)	0
Endometrial cancer	0	0	0	2 (100)	0
Endometrial hyperplasia without atypia	1 (2)	18 (36.7)	23 (46.9)	6 (12.2)	1 (2)
Total	31 (3.4)	212 (23.4)	495 (54.7)	121 (13.4)	46 (5.1)

Proliferative endometrium was more common in the age group 40-49 years- 265 patients (61.9%), as also disordered proliferation (55.4%), secretory endometrium (54.8%), cystoglandular hyperplasia (54.8%) and endometrial hyperplasia (46.9%). Cystic atrophy was more common in age group 50-59 years (37.3%). Retrogressive cystic hyperplasia was also more common in the age group 50-59 years (40%) compared to other age groups. Both the endometrial cancers were found in the age group 50-59 years.

DISCUSSION

Abnormal uterine bleeding continues to be one of the most frequently encountered complaints in gynaecology OPD. The frequency of the various causes of abnormal uterine bleeding varies with the age of the patient. Dysfunctional uterine bleeding is a diagnosis of exclusion in which no specific organic cause can be attributed to as the reason.[13] Abnormal uterine bleeding without structural pathology occurs in reproductive women of all ages but is more common in adolescent and perimenopausal women.[14] In perimenopausal years, anovulatory cycle is most frequent which in turn causes changes in endometrium which results in irregular bleeding.[15] In present study, AUB was commonest in the age group 40-49 years (54.7%). A similar high incidence was reported by Muzaffar M et al, Yusuf NW et al, Doraiswami S et al and Damle P et al while Khan R et al found maximum incidence in the age group 30-39 years.[6,7,16-18] We found proliferative endometrium to be the most common histopathological finding in 47.3% followed by secretory endometrium in 16.1 %. Similar finding was found by Dangal G, Bhatta S et al and Khare A et al.[14,19,20] Khan S et al found proliferative endometrium in 46.6% of cases while Sheetal et al reported in 42% of cases.[21,22] Fakhar S et al reported a higher incidence of 54% and Bhosle A et al reported an incidence of 66.1% same as Jetley S et al.[23-25] Chary N et al found proliferative endometrium- the most common finding at 60% followed by secretory endometrium in 17 % of cases.[26]

Secretory endometrium was the next common finding in present study with 146 patients (16.1%). Similar finding of 16.1 % was reported by Bhosle et al while Khan S et al reported 38.4%, Muzaffar M et al 35.4 %, Sheetal et al 22%, Fakhar S et al 14% and Khan R et al 13.7%.[6,7,21-24] Abdulla and Bondaji found secretory endometrium to be the most common histopathological diagnosis (24.9%) followed by proliferative endometrium at 21.7%.[27] Present study found Glandular hyperplasia without atypia in 1.9% cases and with atypia in 0.2 % of cases. Khan S et al found a slightly higher incidence of glandular hyperplasia without atypia in 2.8 % of cases and with atypia in 1 % cases.[21] Bhatta et al found simple hyperplasia without atypia in 24.6% patients in the age group 40-49 years while Muzaffar M et al found

endometrial hyperplasia (24.7 %) to be the most common lesion followed by chronic nonspecific endometritis (13%).[7,19] Disordered proliferation was found in 6.2 % in our study. A similar incidence of 6.56 % was reported by Bhatta et al while Damle R P et al and Abdulla L S et al observed an incidence of 15.9 %.[18,19,27] Endometrial polyp was found in 1.1 % cases in present study. A similar incidence was found by Khan S et al (0.6%), Muzaffar M et al (1.2%), Baral R et al (1.3%).[7,21,28] A higher incidence was reported by Bhatta S et al (2.46%), Jetley S et al (2.7%), Khan R et al (3.3 %), Sheetal et al[22](5%) while a much higher incidence was reported by Mencoglia et al at 20 %.[2,6,19,22,25] Chronic endometritis in the present study was found in only 0.7 % of patients while it was seen with a higher incidence of 5.68% in a study by Damle R P et al, 6.4 % by Khare et al, 6.56% by Bhatta S et al, 9.1 % by Jetley S et al, 13% by Muzaffar M et al and 20.7% by MichailG et al.[7,18-20,25,29] Endometrial cancer was observed in 0.2 % of cases in present study. A similar incidence of 0.4% was reported by Khan S et al, Moghal N et al and Valle R F et al while it is little higher in studies by Jyotsna et al (1.3%), Sheetal et al (2%), and Jong P D (3.3 %).[21,22,30-33] Damle RP et al reported a much higher incidence of 9.67%.[18] Dilatation and curettage can be a diagnostic as well as therapeutic procedure. The sensitivity of endometrial biopsy for the detection of endometrial abnormalities and for detection of cancer have been reported to be as high as 96% with a 2-6 % false negative rates.[34] The main aim of endometrial biopsy is not only to identify causes of abnormal uterine bleeding but also to exclude malignancy.[21] The principal reason for sampling the endometrium is to evaluate the patient for presence of endometrial hyperplasia and carcinoma and to diagnose acute and chronic endometritis.[35] Abnormal uterine bleeding may be the symptom of endometrial cancer in 8-50% of cases.[14] Management of abnormal uterine bleeding is not complete without tissue diagnosis, especially in perimenopausal and post-menopausal women.[28]

CONCLUSION

Abnormal uterine bleeding is one of the commonest reasons for women to seek medical help and a major drain on health resources. Histopathological study of the endometrium in these cases reveals a wide variety of abnormalities, evaluation of which will help us to plan for successful management. Endometrial curetting and biopsy are important diagnostic procedures for assessing all cases of abnormal uterine bleeding especially to detect endometrial cancer and endometrial hyperplasia which has very good prognosis if detected and treated early.

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