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ENDOMETRIAL HISTOPATHOLOGY IN WOMEN WITH POSTMENOPAUSAL BLEEDING

Pathology

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ABSTRACT

OBJECTIVES OF THE STUDY: To study histopathology of endometrium in women with postmenopausal bleeding.
MATERIALS AND METHODS: A three and half years retrospective (May 2010 to Oct 2013) and one and half year prospective study (Nov 2013 to April 2015) of all D&C and hysterectomy specimen of patients presenting with postmenopausal bleeding were undertaken in the department of Pathology, KIMS Hubballi.
RESULTS: A total of 122 cases with symptoms of postmenopausal bleeding were studied. Majority (24.59%) of patients with postmenopausal bleeding were in the age group 46 to 50 years. The most common histopathological findings were simple hyperplasia without atypia (30.6%) followed by proliferative endometrium (21.1%). There were 22 cases of endometrial carcinoma (18%).Out of 22 , one case was carcinosarcoma. 13 cases were atropic endometrium(10.64%), 5 cases(4.09%) were complex hyperplasia without atypia. 7 cases (5.76%) were secretory endometrium and 2 cases (1.63%) were chronic endometritis. There were 5 cases(4.09%) each of complex hyperplasia without atypia and complex atypical hyperplasia.
CONCLUSION: Majority of the patients with postmenopausal bleeding were within the age group 46 to 50 years. The most common finding in patients with postmenopausal bleeding was endometrial hyperplasia followed by proliferative endometrium and endometrial carcinoma.
Endometrial hyperplasia carries a stronger risk of developing malignancy in the later age. The dictum says 'postmenopausal bleeding indicates malignancy until proved otherwise'. Therefore study of histopathology in patients with postmenopausal bleeding is important for diagnosing the cause and formulating an appropriate therapeutic strategy.

KEYWORDS

Endometrium, Postmenopausal bleeding, Endometrial Carcinoma.

INTRODUCTION

Menopause is derived from the Greek word, men (month) and pause (to stop). WHO defines menopause as permanent cessation of menstruation resulting from the loss of ovarian follicular activity[1].

Uterine bleeding occurring at least one year after menopause is called post menopausal bleeding. It is one of the sinister complaints of postmenopausal women and represents one of the common reasons for referral to gynecological department. It accounts for 5-10 % of all gynecological patients[1]. Endometrial atrophy is the most common endometrial finding in women with postmenopausal bleeding accounting for 60% of such bleeding. Being a symptom of varied etiology and its strong association with malignancy it should not be taken lightly[2].

The famous dictum that ―Postmenopausal bleeding must be considered as indicative of malignant disease until proven otherwise. A women not taking hormone replacement therapy who bleeds after menopause has 10% risk of having genital carcinoma[3] and reported incidence of endometrial cancer has very wide range from as low as 1.5% to as high as 54 %in different population groups[1].

Thus this study of sampling of endometrium is conducted in all women presenting with postmenopausal bleeding in order to determine various histomorphological features in the endometrium and to find the prevalence of malignancy.

Objectives Of The Study:

To determine various histopathological patterns of endometrium in women with postmenopausal bleeding.

Methodology

This study was done on hysterectomy specimens and endometrial biopsies from patients with postmenopausal bleeding received at the department of pathology, Karnataka Institute of Medical Science Hubballi for histopathological examination during the period of 2010 to 2015 (prospective study of 1 ½ years and retrospective of 3 ½ years).

Methods Of Data Collection:

The data for prospective study was obtained from requistions with tissuespecimen received in 10 % formalin. After adequate fixation of the specimen, the specimen was subjected for gross examination and tissue processing. 3-5 micron thick sections were taken and stained with haematoxylin and eosin. The data for retrospective study was obtained from departmental records, tissue blocks, slides and clinical records.

Study Period:

Five years study with prospective study of 1 ½ years i.e from November 2013 to April 2015 and retrospective study of 3 ½ years i.e from May 2010 to Oct 2013

Inclusion Criteria:

Specimens from patients with postmenopausal bleeding who have had hysterectomy, endometrial biopsies and dilation and curettage done.

Exclusion Criteria:

a. Cases with non endometrial causes of postmenopausal bleeding.
b. Hysterectomy specimen and endometrial biopsies from patients without complaints of postmenopausal bleeding.

During the study period from May 2010 to April 2015; There were total of 122 cases including hysterectomy specimen, endometrial biopsy and curettings of patients with postmenopausal bleeding received at the Department of pathology, Karnataka Institute medical science. Hubballi.

The different endometrial patterns presenting as postmenopausal bleeding were studied. Out of 122 cases; the most common finding on histopathology was simple hyperplasia without atypia, 37 cases (30.6%) followed by proliferative endometrium of 26 cases (21.1%) and atropic endometrium 13 cases (10.64%). There were 5 cases (4.09%) of complex hyperplasia without atypia and 5 cases (4.09%) of complex atypical hyperplasia, and 2 cases (1.6%) of endometritis. Adenomatous polyps were found in 5 cases (4.09%)(table-1).

Table-1: Endometrial Histopathology In Relation To Postmen opausal Bleeding.

SL. NO	ENDOMETRIAL HISTOPATHOLOGY	TOTAL	PERCENTAGE
1.	Proliferative endometrium	26	21.1%
2.	Secretory endometrium	7	5.76%
3.	Simple hyperplasia without atypia	37	30.6%
4.	Complex hyperplasia without atypia	5	4.09%

5.	Complex hyperplasia with atypia	5	4.09%
6.	Endometritis	2	1.63%
7.	Atropic endometrium	13	10.64%
8.	Adenomatous Polyps	5	4.09%
9.	Endometrial Adenocarcinoma	21	17.20%
10.	Carcinosarcoma	1	0.8%
	TOTAL	**122**	**100**

Among the malignant causes of postmenopausal bleeding, endometrial adenocarcinoma was the most common finding accounting for 17.2% (21 cases) and 1 case of carcinosarcoma(0.8%).

In the present study, age distribution of patients with postmenopausal bleeding ranged from 35 years to 75 years. Maximum number of cases(24.59%) were in the age group of 46-55 years(Table-2). Mean age in the present study was 53.8.

Table –2: Showing Distribution Of Cases According To Age Group

	35-45YRS	46-55 YRS	56-65 YRS	66-75 YRS
Simple hyperplasia without atypia	9	15	8	5
Complex hyperplasia without atypia	-	3	2	-
Complex atypical hyperplasia	-	2	2	1
Endometrial carcinoma	1	9	11	1
Atropic endometrium	-	7	4	2
Endometrial polyp	-	1	1	3
Proliferative endometrium	9	14	3	
Secretory endometrium				
Endometritis	-	2	-	-

Majority of patients with endometrial hyperplasia were in the age group of 46-55 years (42.5%). In the age group 35- 45years, there were 9 cases (19%). There were 12 cases (25.7%) in 56-65 years age group and 6 cases (12.8 %) in 66-75 years. The chi square value is 12.34. the p value is 0.006. Hence the result is significant as $p < 0.05$. hence the association between age group endometrial hyperplasia is found statistically significant in our study.

Age of endometrial carcinoma cases ranged from 35 to 75 years with mean age of 58.2 years. Majority, 11cases (50%) were in the age group 56 to 65 years followed by 9 cases (40.90%) in the age group 46to 55 years. Chi-square value is 8.47, the p- value is 0.03. There is a significant association found between the age group and endometrial carcinoma.

Out of 13 cases of atrophic endometrium, 7 cases were between the age group of 45- 55 years, 4 cases were between 56 to 65years and 2 cases were between 66 to 75 years . The chi square value is 4.38. The p value is 0.111, hence the association between age group and atropic endometrium is not found statistically significant.

Out of 122 cases; 5 cases were adenomatous polyps. Out of 5 cases of endometrial polyp, 1 case each were between 45 to 55 years and 56 to 65 years and 3 cases were between 66 to 75 years.Out of 122 cases; 26 cases (21.3%) showed proliferative endometrium. The chi square test is 2.4. The p value is 0.30.Hence the association between age group and adenomatous polyps is found not significant statistically at $p < 0.05$.

Majority of proliferation endometrium were seen in 46-55 years (14 cases), 9 cases were seen in 35 to 45 years and 3 cases from 56 to 65 years. The chi-square test is 10.5 the p value is 0.005 the result is significant at $p < 0.05$.

Secretory endometrium was encountered in 7 cases (5.73 %) of postmenopausal bleeding seen most common in 46-55 years age group. The chi-square test is 18.8. The p-value is 0.00029. Hence there was significant correlation between age groups and secretory endometrium.

In our study only 2 cases (1.6%) of endometritis were found. The mean age of patients was 52.5 years.

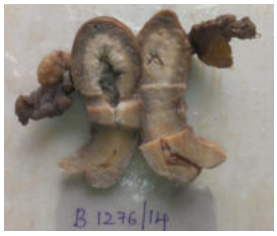

Fig.1: Cut surface of hysrectomy specimen showing grey white friable growth filling endometrial cavity-Endometrial adenocarcinoma.

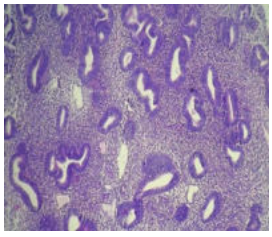

Fig-1: Simple hyperplasia without atypia showing increased number of glands to stroma ratio(H and E,10x)

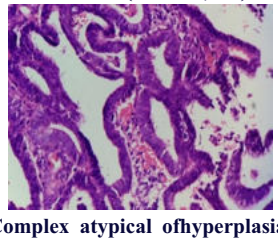

Fig-3: Showing Complex atypical ofhyperplasia with complex branching of glands lined by atypical cells

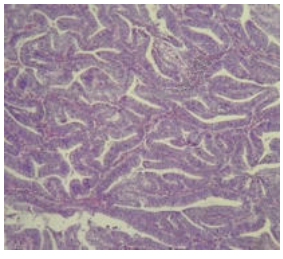

Fig-4:Showing endometrioid type of adenocarcinoma having tumor cells arranged in glandular pattern-

DISCUSSION

Postmenopausal bleeding is a dreaded and alarming symptom and requires complete evaluation in order to ensure the absence of malignancy and to identify and treat high risk patients such as those with endometrial hyperplasia and with endometrial carcinoma. The bleeding could be a sign of an underlying localized condition including benign tumors, malignancy and infection, Endometrial cancer and premalignant atypical hyperplasia are likely causes of abnormal bleeding in peri and postmenopausal bleeding[4].

All the endometrial sampling of women presented with an endometrial causes of uterine bleeding after menopause during the period May 2010 to April 2015 were included in the present study. In the present study there was highest incidence (38.5%) of endometrial hyperplasia. Similarly, Rizwana Habib Kant. et al[5] and Karmarkar P.et al[6] also found highest incidence of endometrial hyperplasia (35.5% and 28.4%) respectively in their study. The present study showed majority, 24.59% of cases between 46-50 years, The minimum number of cases (1.65%) were observed between 76 to 80 years.

Similarly, Karmarkar P. et al[6] also observed that majority 31.6% of their cases were from 46 to 50 years and minimum number cases (3.2%) were observed between 66 to 70 years.

The second most common cause of postmenopausal bleeding in the present study was proliferative endometrium which was 21.1%. Similarly Karmarkar P. et al[6] also found 16.6% proliferative endometrium in their study. Choo Y.C.et al[7] in their study, published

that stimulation of the postmenopausal endometrium can occur as a result of the conversion of adrenal androstenedione by peripheral fatty tissue to estrogen. This can lead to proliferative endometrium, hyperplasia and even carcinoma. It is propabaly that a fluctuating low level of estrogen can result in proliferative endometrium that bleeds[7].

There were 17.2%(22 cases) of cases endometrial adenocarcinoma and 0.8 %(1case) of cases of carcinosarcoma in the present study. Karmarkar P. et al[6] had 0.4% of carcinosarcoma in their study. Out of 22 cases, 50% of cases were between 56-65 years age group. Similarly, Naik V.et al[8] had 50 % of cases in age 56-65 years and Rizwana Habib Kant.et al[5] had 57.1% of cases between 56-65 years.

There were 10.64% of cases of atrophic endometrium in the present study. Similarly Kothapally K.et al[9] had 16.6% of atrophic endometrium cases in their study. According to Naik V.et al[8] and Choo YC.et al[7], bleeding associated with postmenopausal bleeding was a curious phenomenon. Simple atrophy alone cannot explain why bleeding occurs in some but not in other patients. It has been considered that thin walled veins superficial to expanding cystic glands make the vessel vulnerable to injury. They have also stated that bleeding in some patients is due to non specific chronic endometritis associated with an atrophic endometrium[7,8].

The incidence of endometrial polyp in the present study was 4.09% which was comparable to studies done by Kothapally K. et al[9] and Karmarkar P. et al[6], who reported 3.3% and 4% respectively. There was 5.67% of secretory endometrium in present study which was comparable to the studies done by Karmarkar P. et al[6], who reported 4% of secretory endometrium in their study.

In the present study, there was 1.63% of endometritis. Similarly, Rizwana Habib Kant.et al[5] had 2.6% of endometritis in their study.

CONCLUSION:

Postmenopausal bleeding is a symptom that should not be underestimated , A definitive diagnosis is made by histopathology. The main aim of evaluation of cases of postmenopausalbleeding is to exclude premaligmant and malignant lesions of endometrium.

In our study benign condition like atrophic endometrium,endometrial hyperplasia, proliferative endometrium, secretory endometrium, endometrial polpy and endometritis were seen in 82% (100 patients out of 122 patients).Simple hyperplasia without atypia being the most common. But endometrial carcinoma were seen in 18% of people.

This indicates PMB is symptom not to be underestimated and justifies thorough prompt clinical evaluation of patients with histopathological confirmation which is very important in diagnosing the cause and formulating an appropriate therapeutic strategy.

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