Section: OBS and Gynae

Original Research Article

RISK FACTORS FOR ENDOMETRIAL CARCINOMA

Saru Arora[1], Uma Shankar[2], Gaganpreet Kaur Gill[3]

[1]*Assistant Professor, Department of OBS and Gynae, AIMSR, Bathinda, Punjab, India*
[2]*Senior Resident, Department of Anesthesia and Critical Care, AIMSR Bathinda, Punjab, India*
[3]*Assistant Professor, Department of OBS and Gynae, AIMSR Bathinda, Punjab, India*

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Corresponding Author:
Dr. Gaganpreet Kaur Gill,
Assistant Professor, Department of Obs and Gynae, AIMSR Bathinda, Punjab, India.
Email: gillgaganpreet91@gmail.com

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ABSTRACT

Background: Postmenopausal bleeding is defined as blood loss occurring at least 12 months after menopause[1]. Women with PMB have 10-15% chance of having endometrial cancer.[2] the aim and objective is to evaluate PMB and determine its causes via TVS and hysteroscopy. . To detect cases of endometrial ca amongst PMB. To determine risk factors associated with endometrial Ca.

Materials and Methods: The study was conducted at Department of Obstetrics and Gynecology, Government Medical College and Rajindra Hospital, Patiala.Sixty postmenopausal women with complaint of bleeding per vaginum were included after exclusion criteria.Clinical and sonographic evaluation, followed by diagnostic and/or therapeutic hysteroscopy and guided biopsy. Hysteroscopic images were analyzed and compared with histopathologic results.

Results: On hysteroscopy, endometrium was classified as suggestive of atrophic, endometrial hyperplasia or endometrial carcinoma. Histopathologic diagnosis was taken as a gold standard to determine the efficacy of hysteroscopy in diagnosing endometrial pathologies. The sensitivity and specificity of hysteroscopy in diagnosing endometrial pathologies was assessed.

Conclusion: The goal of evaluation of Postmenopausal bleeding is to make the accurate diagnosis with the least risk and expense for the patient. Hystsroscopic evaluation and TVS can provide accurate diagnosis of cause of PMB and so can be used to detect endometrial Carcinoma. Risk factors associated with this malignancy if assesed can be used for prevention.

Keywords: Hysteroscopy, hysteroscopy-guided biopsy, postmenopausal bleeding, endometrial carcinoma.

INTRODUCTION

The average age of menopause in Indian women is 46 years. The Incidence of PMB is approximately 10-15 %. Women with PMB have 10-15% Chance of having endometrial cancer. Conversely, 90% of the endometrial Cancer in the postmenopausal period present with postmenopausal Bleeding.[1,2] The high possibility of endometrial carcinoma in Postmenopausal women warrants that any patient who is symptomatic with PMB should be presumed to have endometrial cancer until the diagnostic Evaluation process proves she does not.[3] Hence, immediate evaluation is Required. Other causes are atrophic changes in the vagina and Endometrium.[2] Unlike ovarian cancer, endometrial cancer often presents at An early stage, when there is possibility of treatment by hysterectomy, Therefore early accurate and timely diagnosis is important.[4] The goal of Evaluation of Postmenopausal bleeding is to achieve the diagnosis with Greatest accuracy, minimal risk and expense for the patient. With the advent of hysteroscopy in the last two decades, focus has shifted from endometrial Biopsy to hysteroscopic – guided biopsy as a “gold standard” diagnostic tool In the evaluation of Postmenopausal bleeding.[5]

Aim and Objectives

1. To evaluate PMB and determine its causes via TVS and hysteroscopy
2. To detect cases of endometrial ca amongst PMB
3. To determine risk factors associated with endometrial Ca

MATERIALS AND METHODS

The present study was carried out in 60 patients presenting with postmenopausal bleeding to the OPD

of Department of Obstetrics and Gynaecology, Government Medical College and Rajindra Hospital, Patiala.

Inclusion Criteria

Following patients were included –

- Patients with post menopausal bleeding.

Exclusion Criteria

The following patients were excluded –

- Women taking hormonal replacement therapy.
- Obvious cause of bleeding from cervix and vagina.
- Known blood dyscrasias.
- On anticoagulant therapy.
- Surgical menopause

A complete detailed history to find out cause of postmenopausal bleeding was taken including age, parity, menstrual history, obstetric history, medical history, surgical history and personal history. General physical.

[Table 1] examination, per abdomen, local examination, per speculum and per vaginum examination were performed.

The endometrial thickness (ET) was measured on TVS. Other parameters like polyp, fibroid, growth, adnexal and uterine pathology were noted.

Gebrauchsanweisung: Diagnostic 4mm rigid Karl Storz Aida @ WD200 and WD 250 endoskope was used with a 30 degree oblique aperture view with a 5 mm sheath.

Hysteroscope was then introduced into uterine cavity. Cavity was distended with normal saline. Cervical canal, internal os, all walls of uterus, cavity, fundus, and the tubal ostia were examined. Findings were recorded as atrophic endometrium, endometrial hyperplasia, endometrial polyp, fibroid, and endometrial carcinoma (obvious intrauterine growth with necrotic tissue). Endometrial biopsies were taken in all patients. Polypectomy was done in required cases.

Histopathological examination was done and was considered as the final diagnosis.

RESULTS

The uterine causes of PMB and the percentage of patients who seek treatment for these conditions are presented in [Table 1].

In our study, we have evaluated all cases of PMB with hysteroscopy and guided biopsy

Out of 60 patients, 24 (40%) were in the age group 45-54 years, 26 (43.33%) in the age group of 55-64 years and 10 (16.67%) were in the age group of ≥65 years. The mean age was 57.50±7.6 years. The mean age at menopause was 48.95±3.06 years. As per Straws classification the patients with duration of menopause ≤6 years (Stage 1) were 53.33% and those with >6 years (Stage 2) were 46.67% in the present study. Mean duration of menopause was 8.6±7.2 years. The mean BMI was 26.00±3.50 kg/m2 with 45% patients having BMI <25 kg/m2 and 55% patients had BMI ≥ 25 kg/m2. 6.6% patients were of low parity ≤1 child and 28.34% patients had >3 children. Majority 65% had 2 or 3 children. 41.67% patients had history of hypertension, 26.67% patients had diabetes mellitus, 13.33% patients had hypothyroidism while there were 5% patients with breast cancer and history of AUB each. 31.66% patients had no medical history. There were some patients who had more than one medical disorder. .

Atrophic endometrium was most frequent finding in post menopausal bleeding (40.00%) followed by endometrial hyperplasia and polyp in 18.33% each. 13.33% had carcinoma endometrium and 10% of the patients had fibroid. All these observations were comparable to the most of the international studies.

The Incidence of endometrial carcinoma (13.33%) is comparable to that in a previous study by Pacheco et al, in which incidence of endometrial cancer in patients with PMB was 10–14%.

In the present study study, that atrophic endometrium was the leading cause of post menopausal bleeding (40.00%) followed by endometrial hyperplasia and polyp each 18.33%. 13.33% of the patients had carcinoma endometrium and 10% of the patients had fibroid. The incidence of atrophy, carcinoma and polyp in the present study were almost to similar to that of Sousa et al (2001),[6] and Tandulwadkar et al (2009),[2] and differ from that of Bingol et al (2011) and Solanki et al (2019) whereas the incidence of hyperplasia was not similar to that reported by other authors. Solanki et al (2019) and Bingol et al (2011),[7] reported a higher incidence and other reported a lower incidence of hyperplasia than the present study. This could be due to difference in population.

In our study, the sensitivity of hysteroscopy in diagnosing endometrial pathologies was 97.2%, in accordance with a value of 97% obtained in a study by Ribero et al, in November 2007.

Table 1: Characterstics of patients

Characterstics	Groups	No.of patients	Percentage %
Age	45-54	24	40
	55-64	26	43.33
	>=65	10	16.67
Occupation	Housewife	49	81.67
	Working	11	18.33
Education	High School and above	17	28.33
	Upto high school	21	35
	Illiterate	22	36.67
Area	Rural	18	30
	Urban	40	70

Table 2: Causes of postmenopausal bleeding

Causes	Percentage	Our study Percentage
Atrophic endometrium	60-80	40
Exogenous estrogen	15-25	Excluded
Endometrial carcinoma	10	13.33
Endometrial polyps	2-12	18.33
Endometrial hyperplasia	5-10	18.33
Others (cervical cancer, urethral caruncle, fibroid etc	5-10	10

Table 3: Distribution of cases according to age at menopause

Age of women attaining menopause (years)	No.of women with PMB(%)
<45	4(6.67)
45-55	56(93.33)
Total	60(100)
Mean+-SD in years	48.95+-3.06

Table 4: Distribution of patients according to duration of menopause (straws classification)

Straws Classification	No.of Patients	Percentage
1	32	53.33%
2	28	46.67%
Total	60	100%

As per Straws classification the patients with duration of menopause ≤6 years (Stage 1) were 53.33% and those with >6 years (Stage 2) were 46.67% in the present study.

Table 5: distribution of patients according to body mass index

BMI classification (kg/m2)	Type	No. Of patients	Percentage
<18.5	Underweight	1	1.67%
18.5-24.9	Normal	26	43.33 %
25-29.9	Overweight	26	43.33%
30 and more	Obese	7	11.67%
Total		60	100%
Mean +- SD	26.00+-3.50 kg/m2		

Table 6: Distribution of patients according to medical history(n=60)

Medical History	No.of patients	Percentage
Hypertension	25	41.67%
Diabetes Mellitus	16	26.67%
Hypothyroidism	8	13.33%
AUB	3	5.00%
Breast Cancer	3	5.00%
No Medical History	19	31.66%

Table 7: history of use of tamoxifen

Tamoxifen	No.of patients	Percentage
Yes	3	5.00%
No	57	95.00%
Total	60	100.00%

Table 8: family history of cancer

Family history of cancer	No. of patients	Percentage
Cancer endometrium	2	3.33%
Cancer breast	3	5.00%
Lung Cancer	1	1.67%
No	54	90.00%
Total	60	100.00%

Table 9: Causes Of PMB

Histopathology	No.of patients	Percentage
Atrophy	24	40.00%
Hyperplasia	11	18.33%
Carcinoma	8	13.33%
Fibroid	6	10.00%
Polyp	11	18.33%
Total	60	100.00%

Persons correlation analysis of endometrial carcinoma with age at menopause

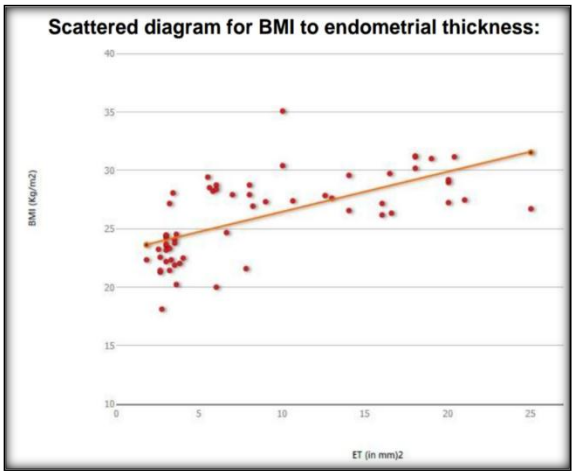
Pearson correlation analysis shows significant P value suggestive of Positive linear correlation

between age at menopause with carcinoma Endometrium.

Correlation of BMI with histopathological diagnosis: All the 24 patients with atrophy had BMI < 25. The p value was 0.000 which was highly significant. All the 11 patients each of endometrial polyp and hyperplasia were either obese or overweight. The p value was 0.0006 which was highly significant. Out of 8 patients with carcinoma, only 1 (12.50%) had BMI < 25 and 7 (12.55) had BMI ≥ 25

Table 10: Pearson Correlation Analysis of BMI with ET

Coefficient	T Statistic	P value
0.3625	2.9618	<0.0044



Correlation of hypertension with histopathological diagnosis: Out of 24 patients with atrophy 9 had hypertension and 15 were normotensive. The p value was 0.593 which was not significant. Amongst Hyperplasia out of 11 patients, 5 (45.45%) had hypertension. The p value was 1.00 which was not significant. All the 8 patients with carcinoma had Hypertension. The p value was 0.00084 which was highly significant. All the 6 patients with fibroid were normotensive. The p value was 0.03242 which Was not significant. Out of 11 patients with polyp, 3 (27.27%) had Hypertension. P value was 0.3323 which was non significant. Overall p value Was 0.0011 which was significant.

Correlation of diabetes and histopathological diagnosis: Out of 24 patients with atrophy, majority 21 (87.50%) were non diabetic and only 3 (12.50%) were diabetic. The p value was 0.0428 which was significant. Out of 11 patients of hyperplasia 3 had Diabetes. The p value was 1.00 which was not significant. 8 patients with carcinoma half were diabetic and half non diabetic i.e. each 4 (50%). The p value was 0.2447 which was not significant. Among 6 patients of fibroid, only 1 was diabetic. The p value was 1.00 which was not significant. Among 11 patients of polyp, 5 were diabetic. The p value was 0.1189 which was not significant.Overall p value was 0.1250 which was not significant.

Correlation of use of tamoxifen and histopathological diagnosis: Only 3 patients out of 60 patients with PMB in the present study had History of use of tamoxifen. 2 had endometrial polyp and 1 had endometrial Hyperplasia. No patient of PMB on tamoxifen had atrophic endometrium or Carcinoma endometrium.

DISCUSSION

Age Distribution: The mean age of patients in the present study was 57.5±7.6 years Which is similar to that of Indian studies like Smitha et al,[6] (2015), Garg et al,[7] (2016), Junnare et al,[8] (2019) who found mean age of patients in their Studies to be 56.1±2.83 years, 55.93±0 years and 53.1±0 years respectively. The mean age of patients in the studies conducted by foreign authors were Higher. These were 62.1±8.9 years, 61.1±8.9 years, 60±7 years in the Studies by Sousa et al,[9] (2001), Ribeiro et al,[10] (2007) and Lee et al,[11] (2019).The difference of mean age between Indian and foreign authors maybe partly attributed to the fact that mean age of menopause is higher in foreign women as compared to Indian women,[12] and partly because of the more frequent use of hormone replacement therapy among foreign women.

Distribution according to age of menopause: In the present study the mean age of attaining menopause was 48.95±3.06 years. It is comparable with the Indian study conducted by Smitha et al,[6] (2015) with mean age of attaining menopause 49.2±4.7 years.

Distribution according to duration of menopause: In the present study mean time elapsed since menopause was 8.6±7.2 years which is comparable to the study by Smitha et al,[6] (2015) and Lee et al,[11] (2019) with 7±0.14 years and 8±5 years respectively.

BMI: In the present study 45% were underweight or normal weight and 55% were overweight or obese which corresponds to the other Indian study by Tandulwadkar et al,[14] (2009).

Association of comorbidities with PMB: In present study, 41.67% women were hypertensive and 26.67% were diabetic which correlates with findings of Singh et al,[13] (2016) and differs from that of study by Tandulwadkar et al,[14] (2009) where number of diabetics were more than Hypertensives.

Histopathological findings in postmenopausal bleeding: In the present study study, that atrophic endometrium was the leading cause of post menopausal bleeding (40.00%) followed by endometrial hyperplasia and polyp each 18.33%. 13.33% of the patients had endometrium and 10% of the patients had fibroid. The incidence of atrophy, Carcinoma and polyp in the present study were almost to similar to that of Sousa et al,[9] (2001) and Tandulwadkar et al,[14] (2009).

Correlation between comorbid conditions and carcinoma endometrium: In the study by Tandulwadkar et al,[14] (2009) 50% patients with

carcinoma endometrium had Diabetes while 25% had hypertension, 62.5% had obesity.

In the present study, 50% of the patients with carcinoma endometrium had Diabetes while 100% had hypertension which suggested that endometrium carcinoma was strongly associated with these co-morbidities.

CONCLUSION

Comorbidities like hypertension and diabetes were associated with Carcinoma endometrium. 100% of patients with carcinoma Endometrium had hypertension and 50% had diabetes. These are known risk factors for endometrial cancers and our study further proves the same.

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