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Original Research Article

Prospective study of role of transvaginal sonography in postmenopausal bleeding and its histopathological correlation: a prospective study from a tertiary care hospital of Rajasthan

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ABSTRACT

Background: Postmenopausal bleeding is vaginal bleeding that occurring after one years of menopause. When periods have stopped for more than one years in women who are generally over than 45 years old and it is common condition in postmenopausal women, it can be the presenting symptom of endometrial cancer. Aim of study is to assess endometrial thickness by vaginal sonography and correlate it with the cytological pattern evaluated by endometrial sampling and histopathological typing of the endometrium.
Methods: This is a prospective observational study conducted in department of obstetrics and gynaecology at R.N.T. Medical college Udaipur from January 2022 to October 2024. Total 100 women with postmenopausal bleeding who attended the Gynaecology outpatient department were screened for this study. Transvaginal ultrasound examination was carried out to calculate endometrial thickness.
Results: This study depicts atrophic and thickened endometria were considered normal findings which was 73 of 100 (73%). The following were considered abnormal seen in 27% (27/100).Endometrial hyperplasia was seen in 15 of 100 women (15%), endometrial carcinoma in 7 women (7%) and endometrial polyp in 5 women (5%). 3/4th (71%) patients had endometrium findings are non-malignant e.g., atrophic endometrium (46%), proliferative endometrium (19%), secretory endometrium (09%). While29% cases in endometrium findings e.g. hyperplasia (17%), polyp (6%), carcinoma (6%).
Conclusions: Transvaginal sonography is safe, simple, non-invasive and cost effective in the diagnosis of endometrial disease. Evaluation of PMB at the earliest is essential for diagnosing endometrial status for early intervention. Role of endometrial thickness cannot be undermined for detecting patients at high risk especially with co-morbid conditions. endometrial thickness of less than 5 mm, most of the reports were benign on HPR and those with endometrial thickness of 10mm or more had mostly malignant findings. So we conclude that with increasing endometrial thickness, the risk of malignancy increases.

Keywords: Postmenopausal bleeding, Atrophic and thickened endometria, Transvaginal sonography

INTRODUCTION

Menopause is defined as the moment that occurs 1 year after menstruation has completely stopped, while post menopause refers to the years that come after this event. The typical age for women to undergo their last menstrual period (LMP) is 51.5 years, although the cessation of menstruation due to ovarian insufficiency can happen at any age. Cessation prior to age 40, known as premature ovarian insufficiency, is linked to increased folliclestimulating hormone (FSH) levels. Menopausal transition (MT), commonly called perimenopause or

climacteric, denotes the late reproductive years, typically from the late 40s to early 50s (Harlow, 2012, Santoro, 2005). Typically, MT starts with irregularities in the menstrual cycle and can continue for up to 1 year following the permanent end of menstruation.[1]

The typical age at which Indian women undergo menopause is 47 years. Postmenopausal bleeding refers to bleeding from the reproductive tract that takes place a year or longer after menstrual cycles have ceased. Postmenopausal bleeding from the genital tract is significantly more concerning than bleeding that occurs before menopause. When defining postmenopausal bleeding, it is important to determine when menopause is considered to be established. Menstruation that persists beyond the age of 55 years should be assessed and thoroughly investigated, even in the absence of amenorrhea or irregular cycles.[2]

Etiology of bleeding after menopause

Vulva

Vulvitis, injury, non-cancerous and cancerous growths.

Vagina

External objects like ring pessary for prolapse, age-related vaginitis, vaginal tumors, vaginal cancer, post-radiation vaginitis.

Cervix

Non-cancerous cervical erosion, polyp, cervicitis, pressure ulcer in cases of prolapse and cervical cancer.

Uterus

Senile endometrial inflammation, tuberculous endometrial inflammation, endometrial polyp, endometrial overgrowth and endometrial cancer. Cancer of the fallopian tube.

Ovary

Non-cancerous ovarian tumors like Brenner tumor, hormone producing granulosa cell tumor and theca cell tumor, cancerous ovarian tumor.

Blood disorders

Intestinal and Urinary system: Urethral caruncle, papilloma, bladder cancer, hemorrhoid and fissure bleeding and rectal cancer could be mistaken by the patient for vaginal bleeding. Uncontrolled or extended use of estrogens.

The most frequent reasons for bleeding after menopause[3]. Atrophic 58.8%. Uterine cancer 9.4%. Endometrial polyp 94%. Cervical carcinoma 6%. Submucosal fibroid 4%. Endometrial hyperplasia, pyometra, ovarian neoplasia, urethral caruncle 12.4%

The primary goal of the diagnostic evaluation in postmenopausal women experiencing uterine bleeding is to identify or exclude the presence of endometrial cancer or atypical hyperplasia, which will be referred to as (pre) malignancy of the endometrium. Since the majority of cases are determined to be benign, the aim of clinical management is to obtain an accurate diagnosis without excessive investigation.

Organic pathology leading to uterine bleeding in postmenopausal women comprises endometrial polyps, endometrial hyperplasia and endometrial carcinoma. In many cases, an organic cause cannot be determined and the histopathology may reveal atrophic endometrium, proliferative endometrium and infrequently secretory endometrium.[4]

It is reported that 20-25% of postmenopausal women expecting bleeding have a neoplastic lesion, with about 10-15% of these cases being endometrial carcinoma.

Endometrial carcinoma is the most prevalent malignancy among the malignancies in the female pelvis and is the fifth most frequent cancer in women, following cancers of the cervix, breast, oral cavity and ovaries. The comparatively low death rate for this cancer is likely because many of these patients seek consultation early, presenting symptoms of postmenopausal bleeding. The recent increase in endometrial carcinoma cases might be linked to the lower occurrence of cervical carcinoma, increased life expectancy and earlier detection.

Endometrial thickness and the likelihood of endometrial carcinoma are linked to several other individual risk factors, such as age, duration since menopause, obesity, hypertension, diabetes mellitus and number of pregnancies. These risk indicators could be utilized to further enhance the evaluation process in postmenopausal bleeding.

In recent years, the health factors concerning postmenopausal women have become increasingly significant due to the rise in life expectancy. The mean age for menopause in Indian women is 46.2 years, compared to 51 years in Western populations, influenced by genetic, lifestyle and nutritional factors.[5] Consequently, a woman experiences over twenty years of life during her menopause.

The main gynecological cancers(breast, ovarian, uterine and cervical) represent over 40% of cancers diagnosed in women globally. Nevertheless, a significant disparity exists in their occurrence and geographic spread.

Endometrial cancer is the most prevalent gynecologic cancer in developed nations. Its occurrence is on the rise in the United States and other developed nations.[6] The

occurrence of endometrial cancer ranges from 3.7% to 17.9% in postmenopausal women experiencing abnormal uterine bleeding. The occurrence of endometrial cancer in asymptomatic women was found to be 0.13%, while atypia was detected in 0.63%.[7]

When detected early, endometrial carcinoma can be treated with reduced morbidity and mortality, resulting in improved cure rates. Vaginal bleeding is a symptom present in over 90% of postmenopausal women diagnosed with endometrial cancer. However, most women experiencing postmenopausal vaginal bleeding have bleeding due to atrophic alterations in the endometrium. The likelihood of having endometrial cancer ranges from 1% to 14%, influenced by age and various risk factors. Therefore, the clinical assessment of postmenopausal bleeding necessitates immediate investigation to rule out or identify carcinoma.[8]

Endometrial biopsy can be obtained through different techniques such as fractional curettage, endometrial aspiration cytology, pipelle biopsy and dilation and curettage. In our research, we used endometrial biopsy collected via endoaspiration with an MVA syringe. Fractional curettage is an invasive procedure with a complication rate of 1–2%, leading to a growing preference for less invasive office endometrial sampling methods for assessing these women.[15] Pipelle biopsy is frequently chosen for the preliminary assessment of women experiencing suspicious bleeding or potential malignancy. Nonetheless, if sampling methods do not yield adequate diagnostic information or if unusual bleeding continues, fractional curettage might be necessary to clarify the diagnosis. Despite the presence of numerous safe methods for identifying and diagnosing neoplastic lesions of the endometrium, these techniques remain invasive.[9]

In our research, we utilized an MVA syringe with a yellow and green Carman cannula due to its availability, accessibility and our lack of complications. It may be better to initially employ a non-invasive technique, like ultrasound, to pinpoint women at risk who need to have an endometrial biopsy.

Transvaginal ultrasound produces clear images of the uterus.[10] It allows for accurate measurement of endometrial thickness and structure, with high patient satisfaction.

Transvaginal Sonography assessment of endometrial thickness and structure has shown a high level of precision in ruling out endometrial polyps, hyperplasia and cancer in women experiencing postmenopausal bleeding.20 Comparable sensitivities for identifying endometrial carcinoma are found with TVS when an endometrial thickness over 5 mm is deemed abnormal and for endometrial biopsy when adequate tissue is collected. TVS is a minimally invasive technique with high rates of cancer detection.[11] When assessing postmenopausal women with unusual vaginal bleeding, using transvaginal sonography as the primary investigation proves to be the most economical compared to biopsy-based methods.

The society of RADIOLOGISTS IN ULTRASOUND SPONSORED A CONSENSUS CONFERENCE STATEMENT indicating that for assessing women with PMB, either transvaginal sonography or endometrial biopsy can be employed safely and effectively as the initial diagnostic approach.

METHODS

A total of 100 women experiencing postmenopausal bleeding who visited the Gynaecology outpatient department at R.N.T. Medical College Udaipur between January 2021 and October 2022 were evaluated for this research.

Women presented with postmenopausal bleeding in OPD/IPD; we obtained a thorough history, conducted a general physical examination and performed speculum/vaginal examination.

A comprehensive history is gathered about the patients' age, menstrual cycles, obstetric history, years post-menopause, any medications and existing medical conditions. BMI is measured in every patient.

A USG (TVS) of the pelvis was performed to assess endometrial thickness and identify any evident abnormalities such as polyps, fibroids, etc.

Sampling of the endometrium performed using an MVA syringe.

Study design

A Prospective analysis SAMPLING:

Cases were chosen according to the inclusion and exclusion criteria.

We included postmenopausal women who presented with one year or more of menopause along with vaginal bleeding. The sample size amounts to 98 subjects, providing a 95% confidence interval for the proportion of the desired outcome, with a 1% absolute margin of error and finalized correction (n=100). Nonetheless, our research consists of 100 women.

Inclusion criteria

Women arrived experiencing postmenopausal bleeding. Older than 40 years.

Exclusion criteria

Females undergoing hormone replacement treatment. Women who experienced localized conditions causing

postmenopausal bleeding, such as vaginitis, any tumors like cervical cancer, vulvar cancer, rectal bleeding, etc.

Methodology

In this prospective research, 100 women experiencing postmenopausal bleeding participated and the outcomes were analyzed and correlated with histopathological reports. The outcomes were statistically examined through Chi-square testing along with frequency and percentage analysis.

Sample size 100, TVS performed in 100 %, histopathological diagnosis obtained in 100%.

RESULTS

Distribution parameters

Majority of the women belong to the age group 46-50 years (32). The mean age of distribution 54.50 years.

Distribution of patients as per parity

In our study only 2% patients were nulliparous. Mostly (76%) patients belong to multiparous (P 3 or more). The our study found that PMB was more common within 5 years of duration of menopause.

The TVS findings determined were atrophic and thickened endometria were considered normal findings which was73 of 100 (73%). The following were considered abnormal seen in 27% (27/100). Endometrial hyperplasia was seen in 15 of 100 women (15%), endometrial carcinoma in 7 women (7%) and endometrial polyp in 5 women (5%). The histopathological diagnosis was considered gold standard. 3/4th (71%) patients had endometrium findings are non-malignant e.g. atrophic endometrium (46%), proliferative endometrium (19%), secretory endometrium (09%). While 29% cases in endometrium findings e.g. hyperplasia (17%), polyp (6%), carcinoma (6%).

Correlation of histopathological report with medical diseases

Only DM was present in 35 women, of whom 15 (43%) had abnormal HPR findings and 20 (57%) had normal HPR findings. The comparison between DM and HPR findings shows that there is a highly statistically significance with (p=0.001<0.01) in women with diabetes and endometrial disease.

Only hypertension was present in 17 patients, of whom 4 (24%) had abnormal HPR findings. The comparison between Hypertension and HPR findings shows that there is no statistical significance (with p=0.955) between hypertension and endometrial disease. 37 women had BMI>25, of whom 11 (30%) had abnormal HPR findings. The comparison between BMI and HPR findings shows that there is no statistical significance (with p=0.220) between BMI and endometrial disease in this study.

Parity and HPR

Women of all parity were included in the study. Women with higher parity had more abnormal findings in HPR in this study. The comparison between parity and HPR findings shows that there is no statistical significance (with p=0.793) between parity and endometrial disease. 95% of cases had parity of 2 or more and nearly 1/3rd patients had abnormal HPR.

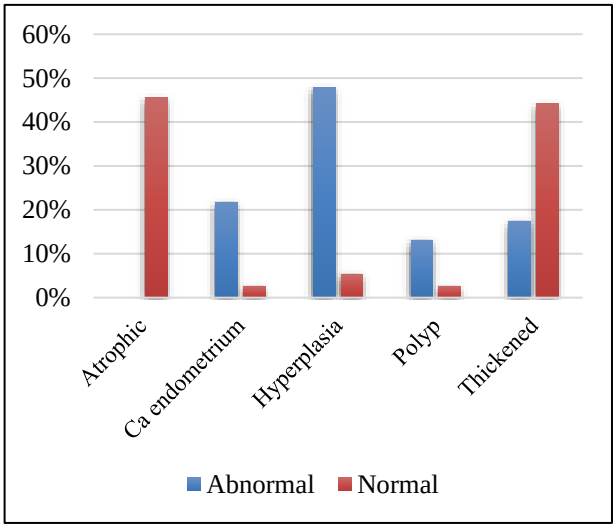

Figure 1: TVS diagnosis with HPR.

Thin line, diffuse with regular margin–were considered normal findings in TVS. Diffuse with irregular margin, Focal with regular margin, Focal with irregular margin were considered abnormal. Characteristics of the endometrium is statistically significant (with p=0.0) in detecting endometrial abnormality.

Correlation between TVS findings with histopathological report

The 35 women who had TVS finding as atrophy had normal HPR findings. Of the 7 patients who had TVS finding of ca endometrium, 2 had normal HPR findings. 15 women had hyperplasia as the TVS diagnosis of whom 4 had normal HPR findings. 2 out of 5 women diagnosed with polyp had normal findings in HPR. 38 women had thickened endometrium in TVS of whom 34 patients had normal HPR.

TVS diagnosis is statistically significant (with p=0.00) in detecting endometrial abnormality.

Correlation of endometrial thickness with histopathological report

In our study 57% cases had ET<5 mm and nearly all patients had normal HPR within normal limit. Only 1%

patients had abnormal finding. 38 patients had ET between 5–10mm and 20 patients (52.63%) had normal HPR while 18 patients (47.3%) had abnormal HPR (abnormal and normal findings are nearby equal. Of 5 patients who had>10mm thickness of endometrium, 80% had abnormal finding whereas 20% normal finding in HPR.

TVS detected 5 cases of endometrial carcinoma correctly and 2 cases was over diagnosed as it turned out to be benign non-pathological finding. One case of endometrial carcinoma was missed and was diagnosed as thickened endometrium.

10 cases of endometrial hyperplasia were detected co relating with HPR but over diagnosed 3 cases of normal endometrium, 1 case of polyp and 1 case of atrophic endometrium was misdiagnosed as hyperplasia. 3 cases of simple hyperplasia were missed and were detected as thickened endometrium. 3 out of 4 of the endometrial polyps were identified correctly on TVS.

1 case was misdiagnosed as hyperplasia and over diagnosed 2 cases of normal endometrium. Of the 49 cases of endometrial atrophy 33 cases of atrophic endometrium were diagnosed by TVS.

In a total of 38 cases with thickened endometrium 12 cases designated as thickened in TVS were atrophic on HPR. 3 cases of senile cystic atrophy were diagnosed as thickened endometrium. 19 cases of thickened endometrium had benign normal histopathological findings. There was strong association with endometrial thickness significance-0.001.

Table 1: Age wise distribution.

Age (in years)	No. of patients	%
41-45	5	5.0
46-50	32	32.0
51-55	29	29.0
56-60	11	11.0
>60	23	23.0
Total	100	100.0

Table 2: Interval of post-menopausal bleeding in years after attaining menopause.

Years of Menopause	No. of patients	%
<5	70	70.0
>5-10	12	12.0
>10	18	18.0
Total	10 0	100

Table 3: Distribution of findings of endometrium on TVS.

TVS Diagnosis	No. of patients	%
Atrophic	35	35.0
Thickened	53	53.0
Polyp	5	5.0
Ca endometrium	7	7.0
Total	100	100.0

Table 4: Histopathological report of endometrial biopsy.

HPR	No. of patients	%
Atrophic	46	46.0
Simple hyperplasia	9	9.0
Polyp	6	6.0
Proliferative	19	19.0
Secretory	9	9.0
Complex hyperplasia	8	8.0
Carcinoma	6	6.0
Total	100	100.0

Table 5: Characteristics and HPR.

Characteristic	HPR		Total
	Abnormal	Normal	
Diffuse, irregular	8 (34.8%)	2 (2.6%)	10 (10.0%)
Diffuse, regular	13 (56.5%)	38 (49.4%)	51 (51.0%)
Focal, regular	2 (8.7%)	2 (2.6%)	4 (4.0%)
Thin line	0 (0.0%)	35 (45.5%)	35 (35.0%)

Table 6: HPR and ET findings.

HPR Finding	ET<5mm	ET 5-10mm	ET>10 mm
Atrophic	46	0	0
Secretory	4	5	0
Proliferative	4	11	1
Polyp	2	4	0
Simple Hyperplasia	0	9	0
Complex Hyperplasia	0	8	0
Endometrial Carcinoma	1	1	4

DISCUSSION

This is a study on histopathology of endometrium in women with post-menopausal bleeding and it's correlation with endometrial thickness (by TVS) in Department of Obstetrics and Gynaecology, RNT Medical College, Udaipur. Women came with post-menopausal bleeding in OPD/IPD, we took detailed history, did general physical examination and per abdominal, per speculum/ per vaginal examination.

We first did TVS and find out endometrial thickness followed by took endometrial biopsy at the same time and sent it for histopathological examination. After collection of HPR report, it's correlation was done with endometrial thickness. The overall incidence of postmenopausal bleeding decreases with increasing age while the probability of cancer as the underlying cause increases. The prevalence of endometrial cancer in women with PMB is 3–10%.The chance of endometrial cancer in women with PMB increases with age approximately 1% at the age of 50 years to 25% at 80 years of age. Traditional fractional curettage has now been replaced by other techniques like miniature endometrial biopsy devices, TVS to measure ET and endometrial biopsy.

This study was undertaken to evaluate how best a patient with PMB can be investigated by non-invasive or minimally invasive techniques. In present study, the sensitivity and specificity of TVS for suspecting endometrial pathology at ET>5 mm were 95.7 and 72.7%, respectively. Similar studies conducted by different investigators, Clarke et al, Gull et al, Garuti et al, Tinelli et al and Kaur et al, had shown the sensitivity ranging from 89 to 100% while specificity from 54.8 to 86% at ET of 4 mm.[13-17] This study is a prospective descriptive study. Most of the women belonged to 46 to 50 years of age with the range of age distribution between 44 to 73 years. Women of all parity were represented in the study. (Most of >para 3 women). Majority of the patients had attained menopause within 1 to 5 years at the time of the study. The distribution range was between 1 to 20 years. 58% women were obese. 74% had diabetes mellitus.

Abnormal findings like endometrial carcinoma, polyp and hyperplasia were detected in 27% of the women by TVS and in 23% of women by histopathology. Factors like age, years of menopause, co- morbid diseases, obesity were analyzed with the histopathology of the endometrium. There was statistically significant association between diabetes mellitus (p=0.01) and endometrial disease using the chi-square test. The study by Gull et al, reported that several risk factors including hypertension and diabetes was associated with increased endometrial thickness and abnormality.[14] BMI and endometrial abnormality had no co relation in this study. Studies by Guven et al, in and van den Bosch et al, have shown no significant association between endometrial disease and BMI.[18,19]

The study and the studies by Clarke et al, Gull et al, Guven et al and Gredmark et al, found that PMB was more common within 5 years of duration of menopause.[13,14,18,21]

Comparison of endometrium pattern with duration of menopause

Atrophic endometrium was the most common finding in our study (22%) in women who had menopause within 5 years. The second most common finding was Proliferative endometrium (16%), followed by secretory endometrium as third most common finding in those who had menopause within 5 years. In this respect, our study is similar to that of Clarke et al.[13]

Table 7: Age distribution of endometrial lesion of women with PMB.

Cause of PMB	41-45 years	46-50 years	51-55 years	56-60 years	>60 years
Clarke et al, (2018)[13]					
Atrophic endometrium	10 %	15 %	8%	3%	3%
Proliferative endometrium	3%	2%	2%	2%	3%
Secretory endometrium	1%	2%	2%	2%	1%
Simple hyperplasia	2%	2%	3%	1%	1%
Complex hyperplasia	2%	1%	1%	2%	1%
Polyp	1%	2%	2%	0%	2%
Endometrial carcinoma	1%	0%	0%	1%	3%
Our study (2022)					
Atrophic endometrium	12%	16%	10%	4%	4%
Proliferative endometrium	4%	7%	4%	2%	2%
Secretory endometrium	2%	3%	2%	1%	1%
Simple hyperplasia	1%	1%	2%	3%	2%
Complex hyperplasia	1%	1%	0%	4%	2%
Polyp	1%	2%	2%	0%	1%
Endometrial carcinoma	1%	0%	0%	1%	4%

Table 8: Comparison of different studies with our study.

	Clarke et al,[13]	Gul B et al,[14]	Singh P et al,[20]	Thomas Gredmark et al,[21]	Our study
Atrophic endometrium	40%	41%	44%	42%	46%
Proliferative endometrium	17%	19%	18%	20%	19%
Secretory endometrium	8%	7%	6%	7%	9%
Simple hyperplasia	7%	8%	6%	7%	9%
Complex hyperplasia	6%	7%	6%	8%	8%
Polyp	5%	4%	3%	5%	6%
Endometrial carcinoma	5%	6%	7%	6%	6%

Table 9: Comparison of incidence of PMB in relation to duration of menopause.

Studies	Duration in years		
	<5 years	6-10 years	>10 years
Clarke et al, (2018)[13]	68%	10%	22%
Gull B et al, (2018)[14]	72%	12%	16%
Singh P et al,[42] (2019)[20]	67%	13%	20%
Thomas Gred Mark et al, (2020)[21]	69%	14%	17%
Our study	70%	12%	18%

Parity

In our study as well as all others, the incidence of PMB was seen to be highest - 75% - in women with P 3 or more. We observe in our study that women with endometrial thickness of less than 5 mm, most of the reports were benign on HPR and those with endometrial thickness of 10mm or more had mostly malignant findings.

Endometrial atrophy

Various studies have quoted endometrial atrophy as one common finding in postmenopausal women. Out of 100 cases in this study 46 cases (46%) of postmenopausal women with bleeding had atrophic endometrium, on histopathology. The incidence of atrophic endometrium in various studies dealing with postmenopausal bleeding is given below.

Table 10: Comparison of endometrial thickness and histopathological report in various studies with our study.

HPR	Clarke et al,[13]	Gull et al,[14]	Singh P et al,[20]	Thomas Gred Mark[21]	Our study
	Endometrial thickness				
	<5mm, 5-10 mm, >10mm	<5mm, 5-10 mm, >10mm	<5mm, 5-10 mm, >10mm	<5mm, 5-10 mm, >10mm	<5mm, 5-10 mm, >10mm
Atrophic endometrium	40%, 0%, 0%	40%, 1%, 0%	40%, 4%, 0%	42%, 1%, 0%	46%, 0%, 0%
Proliferative endometrium	14%, 2%, 1%	15%, 3%, 1%	14%, 2%, 2%	20%, 2%, 0%	4%, 11%, 1%
Secretory endometrium	8%, 0%, 0%	3%, 4%, 0%	4%, 2%, 0%	2%, 4%, 1%	4%, 5%, 0%
Simple hyperplasia	5%, 1%, 1%	6%, 2%, 0%	2%, 4%, 0%	1%, 4%, 2%	0%, 9%, 0%
Complex hyperplasia	1%, 2%, 3%	1%, 5%, 1%	1%, 2%, 3%	2%, 6%, 2%	0%, 8%, 0%
Polyp	2%, 2%, 1%	1%, 2%, 1%	1%, 2%, 0%	1%, 3%, 1%	2%, 4%, 0%
Endometrial carcinoma	0%, 1%, 4%	1%, 1%, 4%	1%, 2%, 4%	1%, 1%, 4%	1%, 1%, 4%

Table 11: Incidence of atrophic endometrium.

Studies	Atrophic endometrium
Clarke et al, (2018)[13]	40%
Gull B et al, (2018)[14]	41%
Singh P et al, (2019)[20]	44%
Thomas Gred Mark (2020)[21]	42%
Our study (2022)	46%

The study included a small number of populations, so the results of transvaginal sonography and histopathological finding could not be studied in wider range of population.

CONCLUSION

Transvaginal sonography is safe, simple, non-invasive and cost effective in the diagnosis of endometrial disease. It can be used as the first line investigation in women with postmenopausal bleeding. A lesion if considered abnormal or suspicious can be further investigated and the mode of investigation can be decided based on findings. Evaluation of PMB at the earliest is essential for diagnosing endometrial status for early intervention. Role of endometrial thickness cannot be undermined for detecting patients at high risk especially with co-morbid conditions. endometrial thickness of less than 5 mm, most of the reports were benign on HPR and those with endometrial thickness of 10mm or more had mostly malignant findings. So we conclude that with increasing endometrial thickness, the risk of malignancy increases. Histopathological evaluation is mandatory in all cases of Postmenopausal bleeding to know the endometrial pathology for further management.

Recommendations

Each and every patient of postmenopausal bleeding should not be taken lightly and should be evaluate completely through simple, non -invasive and easily available by transvaginal sonography to rule out endometrial pathology.

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