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Role of Hysteroscopy and Endometrial Curettage in Postmenopausal Women With and Without Postmenopausal Bleeding

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Abstract

Objective: To diagnose endometrial carcinoma and the premalignant endometrial lesions in women with postmenopausal bleeding, and in women with endometrial thickness >5mm.

Material and Methods: A prospective analytical study was conducted at CARE Institute of Medical Sciences, Hyderabad, Andhra Pradesh between Aug 2011 to Dec 2013 in collaboration with the departments of radiology and pathology. The protocol for the study was approved by the ethics committee of the hospital. A total of 60 postmenopausal women, out of which 40 presented clinically with post-menopausal bleeding and 20 presented with increased Endometrial Thickness (ET) on routine Ultrasonography, (USG) without bleeding. This present series compared the epidemiologic characteristics, ultrasound findings, hysteroscopy and histopathology in 40 women with Postmenopausal Bleeding (PMB) and 20 asymptomatic postmenopausal women with increased ET >5mm, on USG.

Results: This study shows a high incidence of malignancy 17.5% in women with post-menopausal bleeding. Premalignant lesions like hyperplasia with atypia were detected in 7.5%. The incidence of malignancy in asymptomatic postmenopausal women with increased ET >5mm, was 10% in our study. Operative hysteroscopy was done for benign lesions in 24 (60%) cases with postmenopausal bleeding and in 15(75%) cases of asymptomatic postmenopausal women with increased endometrial thickness due to benign polyps.

Discussion: The present study focuses on the value of Trans-vaginal sonography as the initial test and hysteroscopy combined with histopathology in detecting endometrial pathology in women with PMB and the significance of routine ultrasound in detecting endometrial abnormalities in asymptomatic post-menopausal women. Asymptomatic endometrial thickening found on ultrasound examination in postmenopausal women often poses a clinical management dilemma. It is quite significant that asymptomatic postmenopausal women with endometrial thickness more than 5mm in our study had endometrial carcinoma in two, tubercular endometritis in one, benign polyps in 15, and fibroid polyp in one. Which meant that an ET of >5 mm was due to a pathological lesion in 95% of cases.

Conclusions: Transvaginal sonography to detect abnormal endometrial echo complex followed by hysteroscopy combined with endometrial curettage in PMB was found to be the best option. We recommend a cut off of 5mm endometrial thickness to warrant further diagnostic procedures in asymptomatic postmenopausal women, though our numbers are small.

Keywords: Endometrial cancer; Hysteroscopy; Post-Menopausal Bleeding (PMB)

Introduction

WHO defines menopause as permanent cessation of menstruation resulting from loss of ovarian activity [1]. By 2030, the world population of menopausal and postmenopausal women is projected to increase to 1.2 billion, with 47 million new entrants each year [2]. The average age of menopause in Asian women is 46 years [3] Common menopausal age in Indians is 45-50 yrs. With increasing life expectancy, a healthy 50-year-old woman today spends as much as 40% of her life in postmenopausal state. During this prolonged period, women are vulnerable to various conditions, of which one of prime importance and concern is postmenopausal bleeding (PMB) [4]. It represents one of the most common reasons for referral to the gynecological services, and the incidence is estimated to be around 10% [5]. In the United Kingdom, it accounts for about 5% of referrals to the Gynecology outpatient services [6]. The differential diagnosis is usually limited to lesions in uterus, cervix, vagina, vulva, fallopian tubes or be related to ovaries. The bleeding can be from non-gynecological sites, such as the urethra, bladder and lower gastrointestinal tract.

National Institute for Clinical Excellence guidelines advise that when women, who are not on Hormone Replacement Therapy (HRT), present with PMB, they should be urgently referred for specialist assessment and be seen within 2 weeks of referral [7]. The aim of investigating a woman presenting with PMB is to identify endometrial pathology, most notably to exclude endometrial carcinoma.

The American College of Obstetricians and Gynecologists recommends that when TVS is performed for patients with PMB and an endometrial thickness of ≤ 4 mm is found, endometrial sampling is not required [8]. The Scottish Intercollegiate Guidelines Network suggests that a cut-off threshold of 3 mm or less should be used. Most cases of endometrial cancer present with abnormal uterine bleeding, but no bleeding is present in approximately 5-20% of cases [9,10]. A thin endometrial stripe, <4mm, especially when associated with PMB does not reliably exclude type 2 endometrial carcinoma [11,12]. An Endometrial Echo Complex (EEC)<4mm, does not exclude endometrial carcinoma and does not supplant histologic evaluation [13].

The risk of endometrial cancer in women with PMB is about 10%, but it rises from 1% in women aged below 50 years to 25% above the age of 80 years. The incidence of endometrial cancer is higher in women with PMB and obesity [18%], in women with PMB and diabetes [21%], and in women with obesity and diabetes, it is as high as [29%] [14].

Sequence of Investigations

The ideal setting will be 'one-stop' specialist clinics where investigations including TVS, endometrial sampling and hysteroscopy are available to complement clinical evaluation at the same time. If TVS is readily available, endometrial sampling is only needed if the endometrial thickness is above the cut-off value as suggested by the European guidelines [15]. The exact sequence of investigations will depend upon clinical judgment, local resources, local expertise, and patient preference.

The American College of Obstetricians and Gynecologists concluded that there was no evidence to recommend routine investigation for asymptomatic endometrial thickening [16]. The 2010 SOGC clinical practice guideline "Asymptomatic Endometrial Thickening" recommends that the indications for thickened endometrial measurements in a woman with bleeding not be extrapolated to non-bleeding women [17]. The guideline also suggests that decisions regarding further investigation in a non-bleeding woman with thickened endometrium be evaluated on a case-by-case basis.

In practice, the decision to perform an endometrial biopsy in the asymptomatic postmenopausal patient is based not only on the endometrial thickness but also on risk factors for endometrial cancer. Chronic anovulation, unopposed estrogen (RR = 2 to 10), nulliparity (RR = 2), obesity (RR = 2 to 4), diabetes (RR = 2), or a finding such as abnormal glandular cells on cervical cytology increase the likelihood of malignancy [18,19]. A number of studies on clinical evaluation of PMB in postmenopausal women have been conducted worldwide, but there are few reports from India. The present study focuses on value of Trans-vaginal sonography and hysteroscopy combined with histopathology in detecting endometrial pathology in women with PMB and the significance of routine ultrasound in detecting endometrial abnormalities in asymptomatic post-menopausal women.

Material and Methods

A prospective analytical study was conducted at CARE Institute of Medical Sciences, Hyderabad, Andhra Pradesh between Aug 2011 to Dec 2013 in collaboration with Department of Radiology and Pathology.

The protocol for the study was approved by the Ethics Committee of the hospital.

A total of 60 postmenopausal women, out of which 40 presented clinically with post-menopausal bleeding and 20 presented with increased endometrial thickness on routine USG without bleeding.

inclusion criteria:

- PMB after one year of menopause (Group A)
- Asymptomatic post-menopausal women with endometrial thickness >5mm on transvaginal USG (Group B)
- Family history of Ca endometrium.
- Recurrent postmenopausal bleeding.
- Women with hypothyroidism.
- Women on Hormone Replacement Therapy (HRT) and on anticoagulants and antiplatelet therapy.

Exclusion Criteria:

- Pre-menopausal women
- Post hysterectomy women
- Cervical and vaginal lesions
- Cervical cancer
- Vulval and Vaginal cancer.
- Trauma to genital tract

An informed consent was obtained and full assessment done by history (complete medical history), physical examination was conducted and relevant laboratory investigations were carried out, which included compete blood picture, fasting blood sugar, Serum TSH, pap. smear and pelvic ultrasound (Transvaginal ultrasound with Doppler)

Hysteroscopy and endometrial curettage was performed and the biopsy/curettings were sent for histopathological evaluation. The slides were reviewed and classified using current pathologic criteria.

Continuous data were reported as mean± SD. Data were analyzed by Windostat Version 9.1 from indostat services, Hyderabad. The Student t-test was used to compare mean variables in bleeding group and non- bleeding group in postmenopausal women.

Results

Group A, N = 40

S NO	Age(yrs)	NO of women with PMB (n=40)	Percentage(%)
1	45-49	1	2.5
2	50-54	11	27.5
3	55-59	15	37.5
4	60-64	4	10
5	65-69	3	7.5
6	70-74	4	10
7	>75	3	7.5

Table 1A: Age distribution of women with post-menopausal bleeding – n 40.

S NO	Age of attaining menopause	No of women with PMB (n=40)	No of cases detected with CA endometrium on HPE (n=7)
1	<45	7	0
2	45-49	16	3
3	50-55	17	4
4	>55	1	0

Table 2A: Correlation between age of attaining menopause and Carcinoma (ca) endometrium.

S NO	BMI	NO of women with PMB (n=40)	Percentage(%)
1	<18.5	1	2.5
2	18.5-24.9	4	10
3	25-29.9	23	57.5
4	>30	11	27.5

Table 3 A: Distribution of cases according to BMI.

S NO	Parity		No of cases of PMB (n=40)	Percent age(%)
1	Nullipara		3	7.5
2	Primipara		2	5
3	Multipara	P2	12	30
		P3	11	27.5
		P4 and above	13	32.5

Table 4A: Distribution of cases according to parity.

S NO	Co-morbid conditions	No of women with PMB (n=40)	Perce ntage(%)	No of women with Ca endom etrium	perce ntage
1	DM	15	37.5	3	
2	HTN	28	70	4	
3	Hypothyroidism	7	17.5	1	
4	Obesity(BMI >30)	11	27.5	3	

Table 5A: Correlation between co-morbid conditions and Ca endometrium.

S NO	ET on TVS	No of women with PMB (n=40)	Percentage(%)
1	3-4mm	4	10
2	5-9mm	16	40
3	10-14mm	14	35
4	15-20mm	4	10
5	>20mm	2	5

Table 6A: Correlation between Endometrial thickness on Trans vaginal sonography and postmenopausal bleeding.

S no	Histopathology	Total(n=40)	Endometrial thickness on 2D-TVS				
			3-4mm	5-9mm	10-14mm	15-19mm	>20mm
1	Ca endometrium	7	-				
	Adenocarcinoma	6	-	2	3	1	-
	Carcino-sarcoma	1	-	-	1	-	-
2	Complex hyperplasia with atypia	1	-	-	1	-	-
3	Simple hyperplasia with atypia	2	-	1	1	-	-
4	Simple hyperplasia	2	-	-	2	-	-
5	Benign endometrial polyps	17	-	5	10	-	2
6	Atrophic endometrium	3	3	-	-	-	-
7	Proliferative endometrium	3	1	2	-	-	-
8	Submucous fibroid polyp /fibroid	2	-	-	2	-	-
9	Shedding endometrium	2	-	2	-	-	-
			n=4	N=12	N=20	N=1	2

Table 7A: Endometrial thickness measured by 2D-TVS in relation to histopathology.

Out of all malignancies in PMB group, 6 were endometroid adenocarcinoma and one was carcino- sarcoma. Total Abdominal Hysterectomy + Bilateral Salpingo Oophorectomy (TAH+BSO)+ bilateral pelvic lymph node sampling was done in 6 cases and one case of endometroid carcinoma was referred to cancer institute.

For a case of Carcino-sarcoma, TAH + BSO+ bilateral pelvic lymph node sampling was done. Postoperatively, radiotherapy followed by three cycles of chemotherapy was given for the patient. After few months, she presented with secondaries in cervical lymph nodes (Virchow's nodes). FNAC, (fine needle aspiration cytology) was done, which showed carcinoma and immune-histochemistry showed positive for Vimentin and Keratin. She suffered from pathologic fracture of neck of the femur in Feb 2013 and she expired on 21-03-2013 (8months after surgery).

Hysterectomy was done for one case of complex hyperplasia with atypia and 2 cases of simple hyperplasia with atypia. Operative hysteroscopy was done in 24 (60%) women with postmenopausal bleeding and in 15(75%) cases of asymptomatic postmenopausal women with increased endometrial thickness due to benign polyps.

Results

Group B, N = 20

S NO	Age(yrs)	NO of asymptomatic postmenopausal women with increased ET (n=20)	Percentage(%)
1	<45	1	5%
2	45-49	0	0
3	50-54	3	15%
4	55-59	3	15%
5	60-64	6	30%
6	65-69	5	25%
7	70-74	2	10%
8	>75	0	0

Table 1B: Age distribution of asymptomatic post-menopausal women with increased ET.

S NO	Age of attaining menopause	NO of asymptomatic postmenopausal women with increased ET (n=20)	No of cases detected with Ca endometrium on HPE (n=2)
1	<45	2	0
2	45-49	10	1
3	50-55	7	1
4	>55	1	0

Table 2B: Correlation between age of attaining menopause and Ca endometrium.

S NO	BMI	NO of asymptomatic postmenopausal women with increased ET (n=20)	Percentage(%)
1	<18.5	1	5%
2	18.5-24.9	7	35%
3	25-29.9	9	45%
4	>30	3	15%

Table 3B: Distribution of cases according to BMI.

S NO	Parity		NO of asymptomatic postmenopausal women with increased ET (n=20)	Perce ntage(%)
1	Nullipara		0	0
2	Primipara		2	10%
3	Multipara	P2	5	25%
		P3	7	35%
		P4 and above	6	30%

Table 4B: Distribution of cases according to parity.

S NO	Co-morbid conditions	NO of asymptomatic postmenopausal women with increased ET (n=20)	Percentage(%)	No of women with Ca endometrium	Percentage(%)
1	DM	8	40%	2	
2	HTN	18	90%	2	
3	Hypothyroidism	5	25%	1	
4	Obesity(BMI >30)	3	15%	2	

Table 5B: Correlation between co-morbid conditions and Carcinoma endometrium.

S NO	ET on TVS	No of a symptomatic women (n=20)	Percentage(%)
1	6-9mm	4	20%
2	10-14mm	7	35%
3	15-19mm	8	40%
4	>20mm	1	5%

Table 6B: Distribution of cases according to endometrial thickness on 2D-TVS.

S no	Histopathology	Total(n=40)	Endometrial thickness on 2D-TVS			
			6-9mm	10-14mm	15-19mm	>20mm
1	Ca endometrium (adenocarcinoma)	2	-	1	1	-

2	Benign endometrial polyps	15	2	8	4	1
3	Atrophic endometrium	5	2	2	1	-
4	Tuberculous endometritis	1	1	-	-	-
5	Leiomyomatous polyp	1	-	1	-	-
6	Proliferative endometrium	-	-	-	-	-
			N=5	N=12	N=6	N=1

Table 7B: Endometrial thickness measured by 2D-TVS in relation to histopathology.

Our analysis of 20 patients without abnormal bleeding who underwent hysteroscopy because of abnormality on TVUS, found two cases of adenocarcinoma. Majority had ET in the range of 10-19mm (10-14mm: 35% and 15- 19mm: 40%) and 2 patients with carcinoma had ET of 14mm and 19mm and these two were diagnosed as well differentiated endometroid adenocarcinoma on HPE. Out of 20 cases, 5 cases presented with ET <10 mm, of which 2 were diagnosed to have benign polys on HPE, two with atrophic endometrium and one with Tuberculous endometritis.

Two cases of adenocarcinoma endometrium in asymptomatic with increased ET underwent TAH+BSO+ bilateral pelvic lymph node sampling.

S NO	Histopathology	NO of women with PMB(N=40)	Percentage(%)	NO of postmenopausal women with increased ET(n=20) Asymptomatic	Percentage(%)
1	Ca endometrium(n=7) a) Adenocarcinoma b) Carcino-sarcoma	7 6 1	17.5%	n=2 2 -	10%
2	Complex hyperplasia with atypia	1	2.5%	-	-
3	Simple hyperplasia with atypia	2	5%	-	-
4	Simple hyperplasia	2	5%	-	-
5	Benign endometrial polyps	17	42.5%	15	75%
6	Atrophic endometrium	3	7.5%	5	25%
7	Proliferative endometrium	3	7.5%	-	-
8	Submucous fibroid polyp /fibroid	2	5%	1	5%
9	Shedding endometrium	2	5%	-	
10	Tuberculous endometritis	-	-	1	5%

Table 8: Comparision between Histopathology of both symptomatic and asymptomatic with increased ET in post-menopausal women.

	With Bleeding		**Std.Err.**	**w/o Bleeding with increased ET**		**Std.Err.**	**T Test**	**Probability**
Age	59.6	±	1.487	60.2	±	1.537	0.253	0.801
Parity	3.15	±	0.317	2.85	±	0.284	0.609	0.545
menopause attained at	48.3	±	0.554	48.65	±	0.979	0.335	0.739
Menopause Since (Years)	11.313	±	1.637	11.55	±	1.311	0.095	0.925
HTN	0.725	±	0.071	0.9	±	0.069	1.557	0.125

DM	0.325	±	0.075	0.4	±	0.112	0.566	0.574
Hypothyroidism	0.175	±	0.061	0.25	±	0.099	0.676	0.502
BMI	28.93	±	0.796	26.437	±	1.024	1.862	0.068
P/S- Cervix	0.6	±	0.163	0.6	±	0.245	0	1
UT Size	0.4	±	0.078	0.15	±	0.082	1.995	0.05
TSH (mIU/L)	2.372	±	0.365	1.916	±	0.547	0.706	0.483
Papsmear	0.025	±	0.025	0	±	0	0.704	0.484
ET on TVS	9.933	±	0.698	12.7	±	1.052	2.24	0.029
Vascularity of heterogenous lesion	0.125	±	0.053	0.2	±	0.092	0.758	0.452
Polyp	0.15	±	0.057	0.1	±	0.069	0.529	0.599
Collection	0.075	±	0.042	0.05	±	0.05	0.36	0.72
Fibroid	0.15	±	0.057	0.05	±	0.05	1.131	0.263
Endometrium	1.4	±	0.214	0.95	±	0.266	1.261	0.213
polyps	0.625	±	0.117	0.85	±	0.082	1.279	0.206
HPE	1.875	±	0.298	1.4	±	0.4	0.936	0.353

Table 9 Comparison of Mean Variables: The Student t-test was used to compare mean variables in bleeding group and non- bleeding group in postmenopausal women with increased ET on TVS.

In bleeding group, 40% had bulky uterus compared to 15% in non-bleeding group (uterine size) which is statistically significant (p value - 0.05). The difference in endometrial thickness (ET on TVS) was also statistically significant (p value -0.029). The size of the uterus was more and endometrial thickness was less at the time of diagnosis in women with postmenopausal bleeding compared to the asymptomatic group.

Discussion

This present series compared the epidemiologic characteristics, ultrasound findings, hysteroscopy and histopathology in 40 women with postmenopausal bleeding and 20 asymptomatic postmenopausal women with increased ET on USG.

In our study, mean Age of postmenopausal women with bleeding was 59.6+1.49 yrs which is comparable to other reports (N Dawood et al, Alcazar JL et al) [20,21] and mean age of asymptomatic women with increased ET was 60.2 + 1.53 yrs. Majority of patients in PMB group are in the age group of 50-59 yrs (62.5%) but in asymptomatic with increased ET group, 55% are in the age group of 60-69 yrs. Out of 60 women 68.3%(n=41) were in the age group of 50-64 yrs and the highest cases of malignancy in our study were between 55-69 yrs. This is in comparison with the study conducted by Breijer MC et al. [22], who observed the peak incidence of malignancy was in the age group of 55-64 yrs.

Mean distribution of age at menopause in our study was 48.3 +0.55 yrs which is comparable to study by N Dawood et al [20] which was 49 + 0.55 yrs. We found multiparity (87.5%) is a risk factor for post menopausal bleeding which is comparable to study conducted by Kothapally K et al. [23], which was 90%. In asymptomatic postmenopausal women with increased ET group, 90% of women were multiparous.

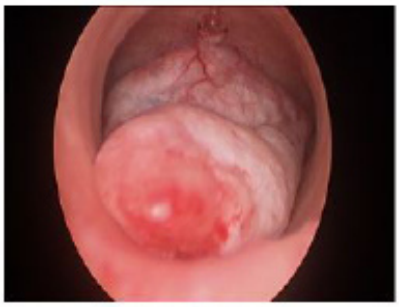
In PMB group, majority had BMI >25 (85%)distributed as overweight 57.5% and obese 27.5% comparable to study conducted by S. Tandulwadkar et al. [24]. In asymptomatic postmenopausal women with increased ET group majority of women had BMI of >25 (60%) which is consistent with regression analysis by Maatela et al. [25] of endometrial thickening in asymptomatic postmenopausal women, who found an increased risk of pathological findings in the presence of obesity (BMI >26).

In our study in the PMB group (A), out of all co-morbidities HTN was associated in 70%, DM in (37.5%) hypothyroidism in (17.5%), and Obesity in (27.5%) women. HTN and DM (2 risk factors) were seen in 35% and three risk factors (HTN+ DM+ Hypothyroidism) were seen in 7.5% of women.

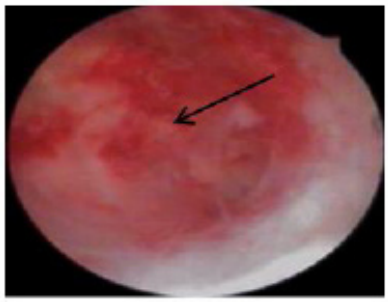
In the asymptomatic with increased ET group (B), 90% 0f women had HTN, 40% had DM, 25% had hypothyroidism, and 15% of women were obese. The high incidence of HTN in asymptomatic women with increased ET in our series is consistent with the study conducted by Martinz- Rubio and Alcazar [26] who prospectively compared the prevalence of abnormal endometrium in 187 asymptomatic postmenopausal normotensive women and 182 asymptomatic postmenopausal women receiving anti-

hypertensive drugs. Women taking antihypertensive medications were significantly more likely than normotensive women to have endometrial thickness >5mm.

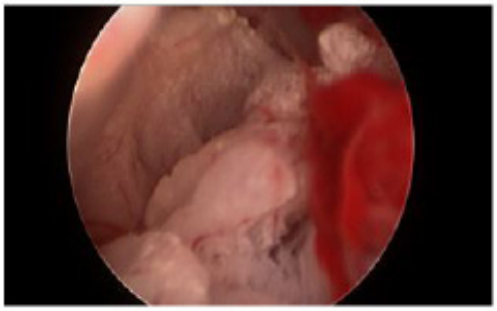
In bleeding group, 40% had bulky uterus compared to 15% in non-bleeding group (increased ET) which is statistically significant (p value-0.05). Our analysis of 20 patients without abnormal bleeding who underwent hysteroscopy because of abnormality on TVUS found two cases of adenocarcinoma. Five cases who presented with ET <10 mm, 2 were diagnosed to have benign polyps on HPE, two with atrophic endometrium and one with tuberculous endometritis.



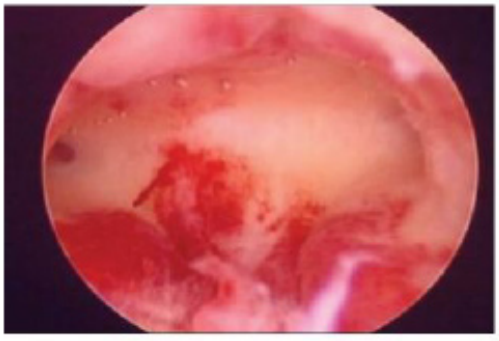
Large fundal Benign Polyp.



Tuberculous Endometritis.



Malignancy (adenocarcinoma) seen in one of our patients.



Hyperplastic Endometrium.

Smith- Bindman et al. [27]. calculated a 6.7% risk of endometrial cancer if the endometrium is thick(>11mm) and a 0.002% risk if the endometrium is thin (< 11mm). On the basis of this analysis, he recommended that patients with endometrium >11mm should undergo further investigations.

In asymptomatic with increased ET group of our study, 10% of women had endometrial carcinoma which was consistent with the study conducted by Gerber et al. [28], who reported a high proportion of abnormalities among asymptomatic patients, using a

cut-off for endometrial thickening of 10mm [28]. In his study of asymptomatic patients, 16 (13%) had endometrial cancer and 21 (17%) had endometrial hyperplasia. Of the asymptomatic patients with cancer 81% had an endometrial thickness >10mm and the remainder had a thickness between 5 and 9mm. Most common finding in group B, was benign endometrial polyps (75%), in our study which is comparable to Schmidt T et al. [29], who found endometrial polyps to be the most common finding in asymptomatic postmenopausal women with increased ET on TVUS accounting for (74.3%). Two cases of adenocarcinoma endometrium in asymptomatic with increased ET underwent TAH+BSO+ bilateral pelvic lymph node sampling.

It is quite significant that asymptomatic postmenopausal women with endometrial thickness more than 5mm in our study had endometrial carcinoma in two, tubercular endometritis in one, benign polyps in 15, and fibroid polyp in one. Which meant that an ET of >5 mm was due to a pathological lesion in 95% of cases.

The most common finding on histopathology in PMB group was benign polyps (42.5%) and second was malignancy (17.5%), premalignant lesions like hyperplasia with atypia (7.5%), Atrophic endometrium (7.5%) and proliferative endometrium (7.5%). The results in our series were comparable to K Jillani et al [30], where the incidence of malignancy (endometrial carcinoma was 16%, premalignant lesios like adenomatous and atypical hyperplasia were seen in 14%, benign pathology was reported in 48%.

In our series, Hysteroscopy was found to be gold standard in detecting endometrial abnormalities having sensitivity of 94%, specificity of 86%, in diagnosing endometrial polyps, a sensitivity and specificity of 100% and 97% respectively, for submucous myoma/ fibroid polyp, a sensitivity and specificity of 100% and 77% respectively for hyperplasia and a sensitivity 85% and specificity of 100% in detecting malignancy which are comparable to studies conducted by Stefano Angioni et al [31],where hysteroscopy demonstrated a sensitivity of 100% and a specificity of 97%, with an accuracy of 91% in diagnosing endometrial polyps, a sensitivity and specificity of 100% and 98% respectively, with an accuracy of 99% for submucous myomas and S Tandulwadkar et al [24] conducted a study, where hysteroscopy demonstrated a sensitivity and specificity of 100% in detecting endometrial polyps, submucous fibroid and hyperplasia and a sensitivity of 87.5% and specificity of 98.1 % in detecting malignancy. Results in our series are comparable to above studies [24, 32].

Sl.No	Study	benign polyp		submucous myoma		Hyperplasia		Ca endometrium	
		sensitivity	Specificity	sensitivity	specificity	sensitivity	specificity	sensitivity	specificity
1	S.Tandulwadkar et al.	100%	100%	100%	100%	100%	100%	87.50%	98.10%
2	S Angioni et al.	100%	97%	100%	100%	-	-	-	-
3	The present study	94%	86%	100%	97%	100%	77%	85%	100%

Table 10: Comparison of sensitivity and specificity of hysteroscopy with other studies.

Conclusion

Abnormal PMB accounts for a significant proportion of gynecological referrals. Excluding endometrial carcinoma is the prime aim of investigation. This study shows a high incidence of malignancy (17.5%) in women with post-menopausal bleeding and premalignant lesions like hyperplasia with atypia in 7.5% and in asymptomatic women with increased ET, malignancy was seen in 10%.

Operative hysteroscopy could be offered for conservative management of benign causes of postmenopausal bleeding. In our study, hysteroscopy was found to be the gold standard in detecting endometrial abnormalities with high sensitivity, specificity, positive predictive value and negative predictive value.

Asymptomatic endometrial thickening found on ultrasound examination in postmenopausal women often poses a clinical management dilemma. Although the prevalence of endometrial cancer is relatively low in women with no bleeding, the disease has a best outcome when it is found at an early stage. As the incidence of malignancy in asymptomatic postmenopausal women with increased ET was 10% in our study, factors like obesity, hypertension, DM, late menopause and other risk factors for endometrial carcinoma should be taken into consideration in the evaluation of these asymptomatic women.

Our study had limitations, namely small sample size with relatively short time of follow up. Therefore, a large sample size with long term follow up is required to establish the incidence of malignancy in asymptomatic postmenopausal women with increased ET.

Acknowledgement

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