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Abnormal Endometrial Pathology in Post-Menopausal Women with Asymptomatic Thickened Endometrium: 5-year Retrospective Study in Tertiary Care Centre in South Kerala

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ABSTRACT
Determine the proportion of abnormal endometrial pathology in post-menopausal women with asymptomatic thickened endometrium. Retrospective cross-sectional study-medical record based- 2016 to 2020. From viewing previous medical records of all patients who have undergone dilatation and curettage for asymptomatic thickened endometrium. Proportion of abnormal endometrial pathology among post-menopausal women with asymptomatic thickened endometrium. The data was documented in Microsoft excel spreadsheet and analysed, which is presented as frequency and percentages for categorical data and descriptive statistics for continuous data. Proportion of abnormal endometrial pathology among post-menopausal women with asymptomatic thickened endometrium is presented as percentages with 95% confidence interval. Association between abnormal pathology and characteristics of participants are measured in terms of ODDS ratio with 95% confidence interval and tested for significance using Chi-square/Fisher's exact tests. Logistic Regression Analysis is also used for those which are found significant in the bivariate analysis. In the study period there were totally 68 post-menopausal women who underwent Dilatation and curettage for incidentally detected thickened endometrium. The women were grouped in 2 categories depending on the measurement of endometrial thickness, as less than 10mm, or more than 10mm. Of these 68 samples, 35.3% samples were reported to be insufficient, around 32% only were reported to be abnormal. The incidence of Ca endometrium was found to be 4.4%, all of them had ET more than 10 mm. Moreover, the percentage of abnormal smears in women with ET between 5-10 mm was less as compared to women with ET more than 10 mm, also it was seen that the probability of obtaining insufficient samples was more when ET was less than 10 mm (38.7%), as compared to 5.2% in ET more than 10 mm. This study further supports the idea that the indications for endometrial biopsy in women presenting with post-menopausal bleeding with thickened ET cannot be extrapolated to women without bleeding, also calls for the need to revise the cut-off values for performing the endometrial biopsy in post-menopausal women with incidentally detected of thickened ET.

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Key Words
Post-menopausal, South Kerala, asymptomatic thickened, pathology

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INTRODUCTION

Endometrial cancer is the leading gynaecological malignancy and second only to breast cancer in women in the developed world. While cervical cancer is still the most common malignancy in the developing countries, uterine cancer is showing an upward trend. The incidence of endometrial cancer in the developed countries is 8.4/100000. In India the incidence is 5.4/100000[1].

Most common presenting feature of endometrial cancer is bleeding accounting to almost 90% of the cases but the incidence of cancer in women without bleeding is not known A study done by Smith *et al.*[2] it was observed that the incidence was 5-10% in asymptomatic women.

Many studies have proposed a cut off value of 5 mm for endometrial thickness in postmenopausal women, anything more than this qualifies for thickened endometrium[3]. In women with bleeding or who are at high risk for developing endometrial cancer further tests like, endometrial biopsy, Fractional Curettage or hysteroscopy is recommended. But there is no consensus regarding the cut off for investigating asymptomatic women with thickened endometrium.

With the advent of ultrasonography more and more women get diagnosed with thickened endometrium even in the absence of symptoms, presenting a clinical dilemma to the treating physician. Evaluating asymptomatic women with thickened endometrium may result in unnecessary interventions, posing a financial burden and sometimes risks.

The aim of this study is to determine the proportion of abnormal endometrial pathology in postmenopausal women with asymptomatic thickened endometrium who underwent Dilatation and Curettage.

MATERIALS AND METHODS

It is a retrospective cross-sectional study conducted in a tertiary care centre in Kerala, South India, between 2016-2020. Institutional Ethical clearance was obtained. The hospital records of all the women who underwent Dilatation and Curettage for incidental detection of thickened endometrium were studied. A cut off of 5 mm was taken as thickened endometrium and woman was considered to have attained menopause, if she had not had menstruation for 12 months. Women who had risk factors like, obesity, Diabetes Mellitus, on HRT, past history or family history of gynaecological or breast cancer, on tamoxifen were excluded from the study. The details like age of the woman, age at menopause, any co-morbidities, complaints, ultrasonography findings, D and C findings, amount of curettings obtained, any complications were noted. The women were grouped in 2 categories depending on the measurement of endometrial thickness, as less than 10mm, or more than 10 mm. Histopathology reports of all these cases were recorded and proportion of abnormal endometrial pathology among these two groups of women was determined.

The data was documented in Microsoft excel spreadsheet and analysed, which is presented as frequency and percentages, for categorical data and descriptive statistics for continuous data. Proportion of abnormal endometrial pathology among post-menopausal women with asymptomatic thickened endometrium is presented as percentages with 95% confidence interval. Association between abnormal pathology and characteristics of participants are measured in terms of ODDS ratio with 95% confidence interval and tested for significance using Chi-square/Fisher's exact tests. Logistic Regression Analysis is also used for those which are found significant in the bivariate analysis.

RESULTS

In our study a total of 68 women underwent dilatation and curettage for incidentally detected thickened endometrium, of which 72.1% had ET less than 10 mm and 27.9% had ET more than 10 mm, as indicated in Fig. 1.

The amount of curettings obtained in the both the categories is depicted in the bar Fig. 2, although there is no statistically significant association between the Scan ET and the amount of curettings derived, as shown in Table 1, it is worth noticing that 54.4% had minimal curettings and 23.5% had absolutely no curettings

From Fig. 3 it is evident that in 29.4% of cases the sample was insufficient, the incidence of polyps was 7.4%. Premalignant conditions like simple hyperplasia with atypia and complex hyperplasia with atypia were found to be 11.8 and 8.8%, respectively, whereas endometrial cancer was found in 4.4% of the samples.

Table 2 shows distribution of abnormal results between the 2 categories. From the table it is clear that all the 3 cases of endometrial cancer belonged to the category of more than 10 mm endometrial thickness. Also 3 out of 5 endometrial polyps were found in the women with ET more than 10 mm. 19 of

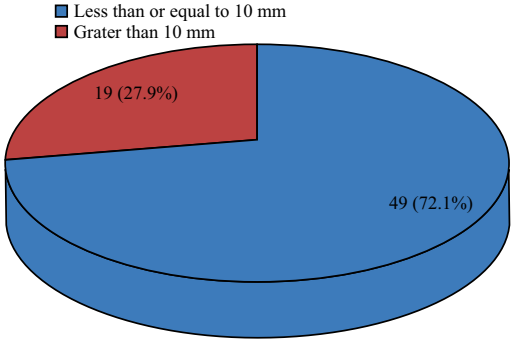

Fig. 1: Women underwent dilatation and curettage

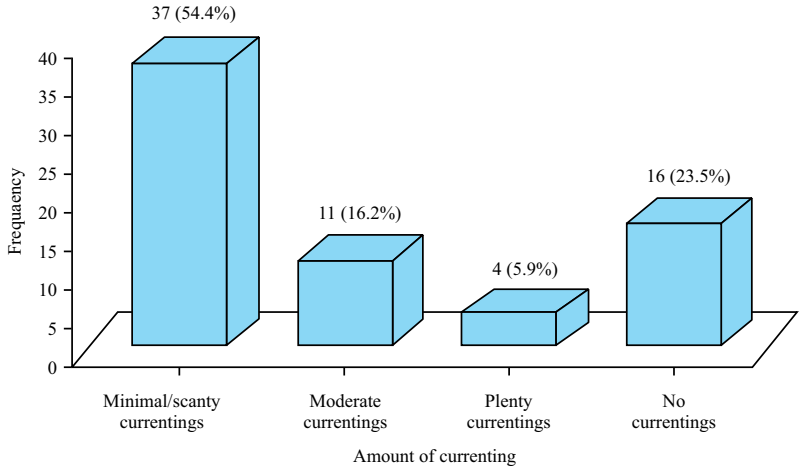

Fig. 2: Amount of curettings

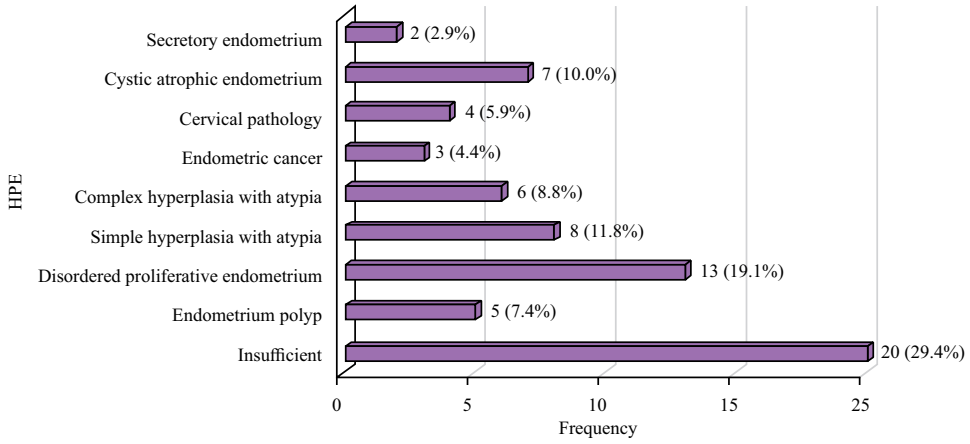

Fig. 3: Premalignant conditions

Table 1: Characteristics

Scan ET	Amount of curettings Minimal/scanty curettings	Moderate curettings	Plenty curettings	No curettings	Total	p-value
Less than or equal to 10 mm	30	5	1	13	49	0.015
Greater than 10 mm	7	6	3	3	19	
Total	37	11	4	16	68	

Table 2: Distribution of abnormal results

	HPE										
Scan ET	Insufficient	Endometrial polyp	Disordered proliferative endometrium	Simple hyperplasia with atypia	Complex hyperplasia with atypia	Endometric cancer	Cervical pathology	Cystic atrophic endometrium	Secretory endometrium	Total	p-value
Less than or equal to 10 mm	19 (38.7%)	2 (4.08%)	9 (18.36%)	5 (10.20%)	4 (8.16%)	0	4 (8.16%)	5 (10.20%)	1 (2.04%)	49	0.021
Greater than 10 mm	1 (5.26%)	3 (15.7%)	4 (21.05%)	3 (15.7%)	2 (10.5%)	3 (15.7%)	0	2 (10.5%)	1 (5.26%)	19	

49, that is 38.7% samples were insufficient in the group with ET less than 10mm, whereas only 1 of 19 samples was declared as insufficient accounting to 5.26%, indicating that there is a statistically significant association between endometrial thickness on scan and the histopathological report.

DISCUSSIONS

The primary objective of the current study is to determine the sonological and histopathological correlation in post-menopausal women with increased endometrial thickness, who did not have any symptoms pertaining to endometrial pathology. Following menopause, the endometrium undergoes atrophy. Ultrasound appearance of thickened ET may indicate possibilities like hyperplasia with or without atypia, cystic hyperplasia, endometrial cancer, intracavitary lesions like polyps or submucous fibroids. Increase in vascularity along with thickness and accumulation of fluid is a cause of concern[4]. Conventionally a cut off of 5 mm endometrial thickness is recommended for postmenopausal women and any

woman with vaginal bleeding following menopause with an ET more than 5mm needs further investigation. But there has been a controversy regarding the cut off for endometrial thickness in asymptomatic women for further evaluation. There is ample evidence that an ET of 8-10 mm is not abnormal in asymptomatic and low risk women[5,6]. The 2001 consensus statement on bleeding published by the Society of Radiologists in Ultrasound has cautioned that the 5 mm threshold does not apply to asymptomatic women with incidentally observed thickened endometrium[7,8].

In this study of asymptomatic postmenopausal women who underwent D and C for incidentally detected thickened endometrium, it was found that the prevalence of endometrial pathology was lower in women who had ET <10 mm as compared to those with ET >10 mm. In our study out of 68 women who underwent the procedure 72.1% had ET<10 mm where as 27.1% had ET >10 mm. Olezi *et al*.[9] in their study, divided the women into 4 sub groups, 57.1% had an ET of 6-10 mm, 26.3% had ET of 11-15 mm, 10.5% had a thickness of 16-20 mm and a 6.1% had more than 20 mm. Whereas Quaranta *et al.*[10] studied the outcome in two groups of symptomatic and asymptomatic women. Overall, both the studies reported similar outcomes[11-14]. We reported higher occurrence of Ca endometrium in the group with ET >10 mm which was 4.4%, mostly consistent with many studies like that of Alcázar *et al*.[15] who reported Ca endometrium was 2.6 times higher when ET was more than 11 mm, Wheareas, Ghoubara *et al*.[16], Ghoubara *et al.*[17] and Schmidt *et al*.[18] reported a rate of 11.4% with a thickness of more than 10 mm (16,17,18,19). None of the women with ET <10 mm had Ca in our study.

We reported atypical hyperplasia in 30.9% of which 18% were in ET < 10M mm, 20% in ET>10 mm, similar results were observed by Gerber *et al.*[11] who reported 21% hyperplasia with a cut off 10 mm ET.

Endometrial polyps were seen in 15.7% of women with ET > 10mm as compared to 4% with ET <10 mm, which is less as compared to that reported by Ghoubara *et al.*[17].

Till date there have been ample studies and much discussion over the appropriate cut off of ET in asymptomatic postmenopausal women.

Many bodies have also exerted caution against applying the same cut off of endometrial thickness to asymptomatic women as compared to symptomatic women[8]. It is also seen that there is no reported survival advantage in diagnosing precancerous or cancerous changes in asymptomatic women[19].

Hence to conclude we recommend that the cut off of 4-5 mm in postmenopausal women with bleeding PV, or with high risk factors not be extrapolated to asymptomatic women without any risk factors. Our study is limited by its retrospective nature and small sample size as it being a single center study.

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