**ORIGINAL ARTICLE**

# Prevalence of Endometrial Carcinoma in Post-menopausal Bleeding Women

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## ABSTRACT

**Aim:** To determine the prevalence of endometrial carcinoma in postmenopausal bleeding women and also examine the accuracy of color Doppler ultrasound for diagnosing the malignant disorder.

**Method:** This observational cross-sectional study was conducted at Department of Gynecology & Obstetrics, Sandeman Provincial Hospital Quetta from 1st January 2017 to 30th September 2018. One hundred and forty women ages ranged from 40 to 80 years whom had irregular vaginal bleeding (postmenopausal bleeding) were included. Patient's detailed medical history also including age, residency, and education level was noted after taking informed written consent from all the patients. Endometrial thickness, uterine artery resistive index and results of Color Doppler ultrasound were recorded.

**Results:** Thirty nine (27.86%) patients were aged between 40 to 55 years, 76(54.29%) had ages 56 to 70 years and rest 25 (17.85%) patients were aged above than 71 years. 65(46.43%) had urban area residency while 75(53.57%) had rural residency. Fifty eight (41.43%) were literate while 58.57% were illiterate. We found 23(16.43%) patients had endometrial carcinoma while 117 patients had no endometrial carcinoma by Doppler ultrasound. On Doppler ultrasound findings, sensitivity 76.66%, specificity 92.78%, PPV 53.49% and NPV 92.78%.

**Conclusion:** The prevalence of endometrial carcinoma in post-menopausal bleeding women is high and the use of Color Doppler ultrasound for diagnosing endometrial carcinoma in affected women shows effectiveness with better specificity and sensitivity.

**Keywords:** Endometrial carcinoma, Prevalence, post menopausal bleeding, Doppler ultrasound,

## INTRODUCTION

Globally, abnormal or irregular vaginal bleeding or post-menopausal bleeding is commonly found in females having ages greater than 40 years and estimation rate followed to post-menopausal women is 5 to 10% of women on daily basis to the gynecology and obstetrics departments[1]. Women described as post-menopausal bleeding women as they has been not happening of periods from 6 months and having irregular vaginal bleeding or period cycle from last 4 months[2,3]. Post-menopausal bleeding or abnormal vaginal bleeding may be caused due to several gynecological and non-gynecological disorders. The most important and common cause for post-menopausal bleeding is endometrial atrophy.[3] The estimation rate of endometrial atrophy is 60 to 80% and the other causes such as endometrial carcinoma is resulted approximately 10%, hyperplasia 5 to 10%, endometrial polyps 2 to 12% and exogenous estrogens reported 15 to 25% are also main causes associated with post-menopausal bleeding[4]. Cullinan et al[5] reported that the polyps and leimyomas are the most frequent cause of post-menopausal bleeding women.

About 75 to 98% of women with endometrial carcinoma) has found inter-menstrual or post-menopausal bleeding as an early manifestation[6]. Post-menopausal bleeding has high rate of mortality and morbidity but the early and accurate diagnoses of this malignant disorder may reduce the morbidity and mortality rate.[7] Many of previous researches for diagnosing endometrial carcinoma in post-menopausal bleeding women illustrated curettage and dilation method reported as the gold standard for diagnosing this malignant disorder[8,9].

Pulsed Index value is ranged from 1 to 2.00 to differentiate the malignant and benign disorder[10,11]. Davidson and Dubinsky[12] reported that endometrial carcinoma is reported measurement of endometrial thickness is the better method for diagnosing endometrial pathology than the Doppler index diagnosis.

This study was conducted to determine the prevalence of endometrial carcinoma in post-menopausal bleeding women in our settings, diagnosis with color Doppler ultrasound and compared the results with histopathology findings to evaluate the diagnostic accuracy.

## MATERIALS AND METHODS

This observational cross-sectional study was conducted at Department of Gynecology & Obstetrics at Sandeman Provincial Hospital Quetta from 1st January 2017 to 30th September 2018. One hundred and forty women ages ranged from 40 to 80 years whom had postmenopausal bleeding were included. Patient's detailed medical history also including age, residency, and education level was noted after taking informed written consent from all the patients. Patients not interested to participate and other gynecological problems were excluded. Endometrial thickness, uterine artery resistive index and results of Color Doppler ultrasound were recorded. Patients resulted had endometrial carcinoma that endometrial thickness was above than 5mm and UARI was less than 0.7. All the statistical data was analyzed by SPSS 19.

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## RESULTS

Thirty nine (27.86%) patients were aged between 40 to 55 years, 76(54.29%) had ages 56 to 70 years and rest 25 (17.85%) patients were aged above than 71 years. 65 (46.43%) had urban area residency while 75(53.57%) had rural residency. 58(41.43%) were literate while 58.57% were illiterate (Table 1).

There were 23(16.43%) patients had endometrial carcinoma while 117 patients had no endometrial carcinoma by Doppler ultrasound. Findings of Doppler ultrasound were compared to histopathology findings, findings were noted as True positive, True negative, False positive, False negative respectively as 16.43%, 64.28%, 14.29% and 5%. We found sensitivity 76.66%, specificity 92.78%, PPV (positive predictive value) 53.49% and NPV (negative predictive value) 92.78% (Tables 2-3).

Table 1: Demographical details of all the patients

| Variable | No. | %age |
|---|---|---|
| **Age (years)** | | |
| 40 – 55 | 39 | 27.86 |
| 56 – 70 | 76 | 54.29 |
| > 71 | 25 | 17.85 |
| **Residency** | | |
| Urban | 65 | 46.43 |
| Rural | 75 | 53.57 |
| **Education** | | |
| Literate | 58 | 41.43 |
| Illiterate | 82 | 57.57 |

Table 2: Frequency of endometrial carcinoma by Doppler ultrasound

| Characteristics | No. | %age |
|---|---|---|
| Positive | 23 | 16.43 |
| Negative | 117 | 83.57 |

Table 3: Findings of all patients by ultrasound

| Findings | No. | %age |
|---|---|---|
| TP | 23 | 16.43 |
| TN | 90 | 64.28 |
| FP | 20 | 14.29 |
| FN | 7 | 5 |

| | |
|---|---|
| Sensitivity | 76.66% |
| Specificity | 92.78% |
| Positive predictive value | 53.49% |
| Negative predictive value | 92.78% |

## DISCUSSION

Endometrial cancer is the sixth most commonly occurring cancer in women and the 15th most commonly occurring cancer overall. There were over 380,000 new cases in 2018[13]. Abnormal or irregular vaginal bleeding or post-menopausal bleeding is commonly found in females having ages greater than 40 years and estimation rate followed to post-menopausal women is quite high as on daily basis 8 out of 100 women patients followed to post menopausal bleeding who visited gynae and obstetrical departments. Endometrial carcinoma is commonly found malignant disease in the women genital tract[14]. According to SEER database incidence of endometrial carcinoma in patients having ages 30 to 35 years is 2 to 3% out of 100000 women in worldwide[15]. 6.1 out of 100000 women endometrial Carcinoma found in women ages between 36 to 40 years and it increases 37 out of 1 lac women ages between 41 to 50 years. In PM (post-menopausal) women whom have no hormonal resistance therapy, any bleeding is considered as cancer; however the malignancy in these patients ranged from 2% to 10%[15].

In the present study, 27.86% patients were aged between 35 to 50 years, 54.29% had ages 51 to 65 years and rest 17.85% patients were aged above than 65 years. These results shows similarity to the other studies conducted regarding endometrial carcinoma, in which the prevalence of endometrial carcinoma was high in patients had ages 40 to 70 years[17,18].

We found 23(16.43%) patients had endometrial carcinoma while 38 patients had not found endometrial carcinoma by Doppler ultrasound. A study conducted by Shazia et al[19] and Zahid et al[20] regarding accuracy of Doppler ultrasound for diagnosing endometrial carcinoma in post-menopausal women reported the prevalence of endometrial carcinoma 15% and 19%.

In this present research we found sensitivity 76.66%, specificity 92.78%, Positive predicted value 53.49% and Negative predicted value was 92.78%. This study shows a little difference to a study conducted regarding post-menopausal bleeding women in sensitivity, specificity, PPV and PPN as 97.2%, 76%, 89.6% and 76.9% respectively[21]. Another study shows the sensitivity with Doppler ultrasound was 58.2% and the specificity was 90%[22,23].

This study was conducted to provide better treatment with early and accurate diagnosis. Moreover we should have to do more work regarding this malignant disorder to reduce the morbidity and mortality rate.

## CONCLUSION

Endometrial carcinoma is known to be more common in postmenopausal women, and the researchers found that in all countries, incidence rates were 4 to 20 times higher in women age 50 and older than in women under 50. In our study we found maximum patients had ages >50 years. The prevalence of endometrial carcinoma in post-menopausal bleeding women is high and the use of Color Doppler ultrasound for diagnosing endometrial carcinoma in affected women shows effectiveness with better specificity and sensitivity.

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