

# Diagnostic Accuracy of Doppler Ultrasound for Diagnosis of Endometrial Carcinoma in Postmenopausal Bleeding Women

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## ABSTRACT

**Aim:** Diagnostic accuracy of transabdominal ultrasound for diagnosis of endometrial carcinoma in postmenopausal bleeding women taking histopathology as gold standard.

**Setting:** The study was conducted in Department of Radiology, Services Hospital, Lahore.

**Methodology:** A total of 345 cases fulfilling the inclusion/exclusion criteria were enrolled from Obstetrics & Gynecology Department, SIMS, Lahore. Ultrasound with doppler method was done. Thickness of endometrium with uterine artery resistive index was recorded. Patients with endometrial thickness >5mm and uterine artery resistive index <0.7 considered as endometrial carcinoma and biopsy was taken.

**Conclusion:** Doppler ultrasound in diagnosing endometrial carcinoma with post-menopausal bleeding is helpful with good sensitivity, specificity, PPV and NPV.

**Keywords:** Postmenopausal bleeding, endometrial carcinoma

## INTRODUCTION

Approximately 70% of peri and postmenopausal patients that gynaecologists see in their office are suffering from abnormal genital tract bleeding.<sup>1</sup> While patients may be alarmed by this symptom, physicians should be equally as alarmed as postmenopausal bleeding can be the presenting symptoms of cancer.<sup>2</sup>

## METHODOLOGY

A total of 345 cases fulfilling the inclusion/exclusion criteria were enrolled from Obstetrics & Gynecology Department, SIMS, Lahore. Ultrasound with doppler method was done. Endometrial thickness and uterine artery resistive index was recorded. Endometrial thickness >5mm and uterine artery resistive index

<0.7 were considered as carcinoma of endometrium. Biopsy was done. All women with post menopause (on history) and vaginal bleeding are included. Women who are medically diagnosed as having any other systemic causes of vaginal bleeding (thrombocytopenia, clotting factor disorders etc.) are excluded.

## RESULTS

Detail of results is given in tables 1 and 2

Table1: Endometrial Carcinoma On Histopathology

Endometrial carcinoma	n	%age
Yes	47	13.62
No	298	86.38
Total	345	100

Table 2: Endometrial carcinoma in postmenopausal bleeding women taking histopathology as Gold Standard

Trans abdominal sonography	Histopathology		Total
	Endometrial Ca Present	Endometrial Ca Absent	
Endometrial carcinoma Present	40(12.17%)	10(1.74%)	50(13.91%)
Endometrial carcinoma Absent	7(1.45%)	288(84.64%)	295 (86.08%)
Total	47 (13.62%)	298(86.38%)	345 (100%)

Sensitivity = 85.11% Specificity = 96.64% PPV=80% NPV =97.63% Accuracy rate =95.07%

## DISCUSSION

In our study, frequency of endometrial carcinoma in postmenopausal bleeding women on histopathology was recorded in 47(13.62%). The sensitivity, specificity, positive predictive value, negative

predictive value and accuracy rate was calculated as 89.36%, 97.99%, 87.5%, 98.32% and 96.81% respectively. The findings of our study correlated with a study<sup>5</sup> showing accuracy by ultrasound with doppler method in post-menopausal bleeding females taking histopathology as the gold standard. Specificity was 97.2%, sensitivity, positive predictive value were 76% and 89.6% while negative predictive value was 76.9%.

Another study by Dipi RM and co-workers<sup>3</sup> demonstrated that sensitivity of TAS for diagnosis of

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cervical cancer was 57.1%, specificity 89.7%, ppv 66.9%, NPV 85.4% while accuracy was 81.1% which is significantly different with the above study. Another study in 1991 by Rullo S et al<sup>4</sup> reveal that diagnostic accuracy of transabdominal ultrasound was 87.5% for the detection of endometrial carcinoma.

In another study by Dubinsky et al<sup>5</sup>, out of 65 patients, malignancy was diagnosed in 54(83%) patients. Ultrasound with saline infusion improves the diagnosis of endometrial cancer i.e., 89% sensitivity, 46% specificity, 16% PPV, and 97% NPV<sup>6</sup>.

## CONCLUSION

Use of Doppler Ultrasonound with doppler method is useful for endometrial cancer diagnosis in subjects with post-menopausal bleeding having good sensitivity and specificity V.

## REFERENCES

1. Brasic N, Feldstein V. Dysfunctional uterine bleeding: Diagnostic approach and therapeutic options. *Ultrasound Clinics* 2010; 5:245-6.
2. Bradley L. Investigation of abnormal bleeding in postmenopausal women. In: *Bradley Hysterectomy* (1<sup>st</sup> ed). Philadelphia, Pennsylvania: Mosby 2008;115-30.
3. Dipi RM, Amin MS, Islam MN et al. Comparison of transabdominal and transvaginal sonography in the evaluation of uterine mass with histopathological correlation. *Mymensingh Med J.* 2013;22(1):69-74.
4. Rullo S, Piccioni MG, Framarino ML et al. Sonographic, hysteroscopic, histological correlation in the early diagnosis of endometrial carcinoma. *Eur J Gynaecol Oncol.* 1991;12(6):463-9.
5. Dubinsky TJ, Stroehlein K, Abu-Ghazze Y et al. Prediction of benign and malignant endometrial disease: hysterosonographic-pathologic correlation. *Radiology* 1999;210: 393-7.
6. Alcazar JL, Errasti T, Zornoza A. Saline infusion sonohysterography in endometrial cancer: assessment of malignant cells dissemination risk. *Acta Obstet Gynecol Scand* 2000; 79: 321-2.