

**THE ROLE OF TRANSVAGINAL ULTRASONOGRAPHY AND
ENDOMETRIAL BIOPSY IN THE EARLY DETECTION OF
ENDOMETRIAL CANCER**

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ABSTRACT

Background. Endometrial cancer is one of the most common malignant tumors of the female reproductive system and represents a significant challenge in modern gynecologic oncology. The incidence of this malignancy is associated with several demographic, hormonal, metabolic, and reproductive factors, including increasing age, obesity, diabetes mellitus, prolonged exposure to unopposed estrogen, and certain hereditary predispositions. Early diagnosis plays a crucial role in improving treatment outcomes, reducing disease-related mortality, and increasing the likelihood of successful treatment.

Abnormal uterine bleeding, particularly postmenopausal bleeding, is one of the most important clinical manifestations of endometrial pathology and requires timely diagnostic evaluation. However, similar symptoms may occur in benign conditions, including endometrial polyps, endometrial hyperplasia, and hormonal disorders, which can complicate the differential diagnosis.

Transvaginal ultrasonography is widely used as a first-line imaging method for assessing endometrial thickness, structural abnormalities, and the presence of suspicious intrauterine lesions. It is a noninvasive, accessible, and

informative diagnostic technique that helps identify patients requiring further examination. Nevertheless, ultrasonographic findings alone are insufficient to establish a definitive diagnosis of endometrial malignancy.

Endometrial biopsy followed by histopathological examination remains an essential method for confirming endometrial cancer and differentiating malignant lesions from benign and precancerous conditions. The combined use of clinical assessment, transvaginal ultrasonography, and histopathological examination may improve diagnostic accuracy and facilitate the timely detection of endometrial malignancies.

Therefore, evaluating the diagnostic significance of transvaginal ultrasonography and endometrial biopsy in women with abnormal uterine bleeding is an important direction of clinical research aimed at optimizing early detection strategies and improving the management of patients with endometrial pathology.

Keywords: endometrial cancer, abnormal uterine bleeding, transvaginal ultrasonography, endometrial biopsy, endometrial thickness, early diagnosis, gynecologic oncology.

Objective. To evaluate the clinical significance of transvaginal ultrasonography and endometrial biopsy in the early detection of endometrial cancer in women with abnormal uterine bleeding.

Materials and Methods. A retrospective comparative study involving 100 women aged 35–75 years with abnormal uterine bleeding is proposed. Patients will be divided into two groups according to their histopathological findings. Group I will include 50 women with benign endometrial conditions, while Group II will consist of 50 women with histologically confirmed endometrial cancer. The planned evaluation will include age, menopausal status, reproductive history, body mass index, comorbidities, endometrial

thickness measured by transvaginal ultrasonography, and histopathological findings.

Results. The proposed analysis will compare clinical characteristics and ultrasound findings between women with benign and malignant endometrial pathology. Particular attention will be paid to the relationship between menopausal status, endometrial thickness, and histopathological diagnosis. Diagnostic sensitivity, specificity, and accuracy will be calculated using histopathological examination as the reference standard. As the study is currently presented as a research model, no actual clinical results are reported.

Conclusion. Transvaginal ultrasonography is an important initial diagnostic tool for evaluating women with abnormal uterine bleeding. However, ultrasound findings alone cannot reliably establish or exclude endometrial malignancy in all patients. Endometrial sampling followed by histopathological examination remains essential when clinically indicated. A comprehensive diagnostic approach may facilitate earlier detection of endometrial cancer and improve the selection of appropriate treatment strategies.

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