

Hysteroscopic Features of Endometrial Polyps in Postmenopausal Women

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Abstract: Endometrial polyps are a common intrauterine pathology in postmenopausal women and represent an important cause of abnormal uterine bleeding. Due to the increased risk of premalignant and malignant transformation in this age group, timely diagnosis and accurate morphological assessment are of critical importance. The aim of this study is to evaluate hysteroscopic features of endometrial polyps in postmenopausal women and to determine their clinical significance in diagnosis and management. The study is based on the analysis of hysteroscopic findings in women diagnosed with endometrial polyps, including assessment of size, shape, vascular pattern, and localization. The results indicate that hysteroscopy provides a highly informative method for the visualization of intrauterine pathology, allowing direct assessment of polyp morphology and differentiation from other endometrial lesions. Typical hysteroscopic features include localized protrusions with smooth or lobulated surfaces, variable vascular patterns, and a pedunculated or sessile base. In conclusion, hysteroscopy plays a key role in the diagnosis of endometrial polyps in postmenopausal women, enabling accurate visualization, targeted biopsy, and appropriate treatment planning.

Keywords: Endometrial polyps, hysteroscopy, postmenopause, abnormal uterine bleeding, endometrium, diagnosis.

Introduction: Endometrial polyps are localized overgrowths of endometrial tissue that commonly occur in women of peri- and postmenopausal age. In postmenopausal women, the clinical significance of endometrial polyps is particularly high due to the increased risk of premalignant and malignant transformation. According to recent studies, the incidence of malignancy within endometrial polyps in postmenopausal patients ranges from 2% to 10%, depending on associated risk factors such as obesity, hypertension, and hormone therapy [1]. Abnormal uterine bleeding remains the most frequent clinical manifestation of endometrial polyps in postmenopausal women. However, a significant proportion of cases may be asymptomatic and detected incidentally during ultrasound or hysteroscopic examination. This creates challenges in early diagnosis and risk stratification [2]. Transvaginal ultrasonography is commonly used as a first-line diagnostic method; however, its sensitivity is limited in differentiating focal intrauterine lesions. In contrast,

hysteroscopy allows direct visualization of the uterine cavity and provides detailed assessment of endometrial pathology, including the size, morphology, vascularization, and localization of polyps [3]. Hysteroscopic evaluation is considered the gold standard for the diagnosis of endometrial polyps, as it enables not only visualization but also targeted biopsy and simultaneous removal of pathological tissue. The characteristic hysteroscopic features of endometrial polyps include smooth or lobulated structures, a pedunculated or sessile base, and distinct vascular patterns that may vary depending on the degree of cellular atypia [4]. Despite advances in diagnostic techniques, there is still a need for a more detailed understanding of hysteroscopic patterns associated with different types of endometrial polyps, particularly in postmenopausal women, where early detection of malignant changes is critical. Therefore, the aim of this study is to evaluate hysteroscopic features of endometrial polyps in postmenopausal women and to determine their diagnostic and clinical significance.

METHODS

This study was conducted as a prospective observational study at the Department of Obstetrics and Gynecology of Tashkent State Medical University between 2022 and 2025. A total of 90 postmenopausal women aged 50 to 70 years with suspected endometrial pathology were included in the study. All patients presented with either abnormal uterine bleeding or incidental findings of endometrial thickening on transvaginal ultrasound.

Inclusion criteria were:

- postmenopausal status (absence of menstruation for ≥ 12 months),
- ultrasound evidence of focal endometrial changes,
- indication for diagnostic hysteroscopy.

Exclusion criteria included:

- known endometrial carcinoma,
- severe systemic diseases,
- contraindications to hysteroscopy.

Diagnostic Procedures

All patients underwent transvaginal ultrasound as an initial screening method. Subsequently, diagnostic hysteroscopy was performed using a rigid hysteroscope under standard conditions.

During hysteroscopy, the following parameters were assessed:

- localization of the polyp (fundus, body, or cervical canal),
- size and number of lesions,
- morphological features (smooth, lobulated, irregular surface),

- type of attachment (pedunculated or sessile),
- vascular pattern (regular, irregular, or atypical).

Targeted biopsy and/or polypectomy was performed in all cases, followed by histopathological examination. Histological analysis was conducted to classify polyps as benign, hyperplastic, or atypical. Special attention was given to identifying premalignant and malignant changes.

Statistical Analysis

Statistical analysis was performed using SPSS version 26.0. Data were expressed as mean \pm standard deviation (SD) and percentages. Associations between hysteroscopic findings and histological results were analyzed using the chi-square test. A p-value < 0.05 was considered statistically significant [5].

RESULTS

A total of 90 postmenopausal women were examined. Endometrial polyps were confirmed hysteroscopically in 78 (86.7%) patients. The most common clinical presentation was abnormal uterine bleeding (64.1%), while 35.9% of cases were asymptomatic and detected incidentally. Hysteroscopic examination revealed that the majority of polyps were located in the uterine body (52.6%), followed by the fundus (33.3%) and cervical canal (14.1%). Morphologically, most polyps had a smooth surface (48.7%) or lobulated structure (34.6%), while irregular surfaces were observed in 16.7% of cases. Pedunculated polyps were more common (61.5%) compared to sessile lesions (38.5%). Irregular or atypical vascular patterns were identified in 19.2% of patients and were significantly associated with atypical or premalignant histological findings ($p < 0.01$).

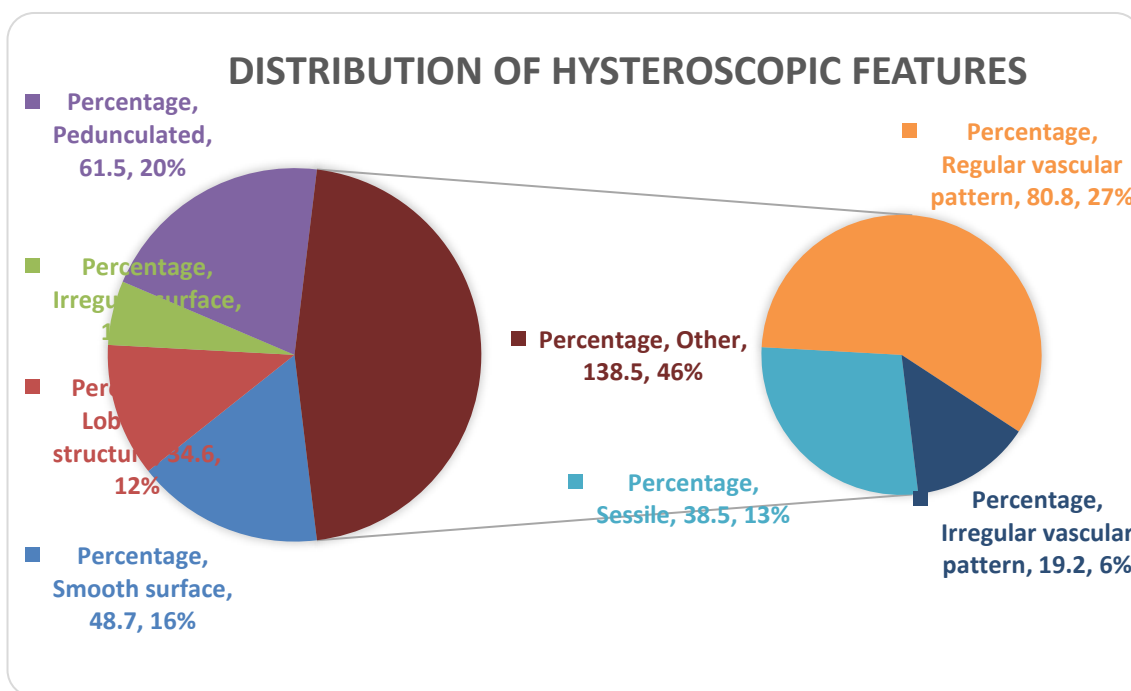


Figure 1. Distribution of hysteroscopic features of endometrial polyps

The data presented in Figure 1 demonstrate that the most common hysteroscopic feature of endometrial polyps was a smooth surface (48.7%), followed by a lobulated structure (34.6%), while irregular surface morphology was less frequent (16.7%). Pedunculated polyps were observed more frequently (61.5%)

compared to sessile formations (38.5%), indicating a predominance of mobile intrauterine lesions. In terms of vascularization, the majority of cases showed a regular vascular pattern (80.8%), whereas atypical vascular features were identified in 19.2% of patients, which may be associated with an increased risk of atypical or premalignant changes.

Table 2. Hysteroscopic and Histological Correlation

Feature	Benign (%)	Atypical (%)	p-value
Smooth surface	72.0%	10.0%	<0.05
Lobulated	20.0%	30.0%	<0.05
Irregular surface	8.0%	60.0%	<0.01
Atypical vessels	5.0%	70.0%	<0.01

The results indicate that hysteroscopic features, particularly irregular surface and atypical vascularization, are strongly associated with atypical histological findings.

DISCUSSION

The findings of this study confirm that hysteroscopy is a highly informative and reliable method for the diagnosis of endometrial polyps in postmenopausal women. The high detection rate of polyps (86.7%) observed in our study is consistent with previous reports, highlighting the diagnostic value of

hysteroscopic examination in patients with suspected intrauterine pathology [6]. The predominance of polyps located in the uterine body and fundus corresponds with known anatomical distribution patterns. Morphologically, most polyps exhibited smooth or lobulated surfaces, which are typically associated with benign histological findings. In contrast, irregular surface structure and atypical vascular patterns were significantly associated with premalignant or atypical changes, indicating their importance as potential hysteroscopic markers of malignancy risk [7]. The presence of atypical vascularization in 19.2% of cases is

of particular clinical significance. Abnormal vascular patterns observed during hysteroscopy may reflect increased angiogenesis and cellular atypia, which are commonly associated with endometrial hyperplasia and early malignant transformation. These findings support the use of hysteroscopy not only as a diagnostic tool but also as a method for risk stratification [8]. Our results also emphasize the importance of combining hysteroscopic findings with histopathological examination. While hysteroscopy provides direct visualization, definitive diagnosis relies on tissue sampling. The strong correlation observed between hysteroscopic features and histological outcomes in this study confirms the reliability of visual assessment in guiding targeted biopsy. In comparison with transvaginal ultrasound, hysteroscopy offers superior diagnostic accuracy, particularly in differentiating focal lesions such as polyps from diffuse endometrial thickening. This is especially relevant in postmenopausal women, where early detection of atypical changes is critical for preventing endometrial carcinoma [9]. Overall, the study highlights that specific hysteroscopic features—such as irregular surface morphology and atypical vascular patterns—can serve as important indicators of potential malignancy and should be carefully evaluated during examination.

CONCLUSION

The present study demonstrates that hysteroscopy is a key diagnostic method in the evaluation of endometrial polyps in postmenopausal women. It allows accurate visualization of intrauterine pathology, assessment of morphological characteristics, and identification of features associated with increased malignancy risk. The results indicate that smooth and lobulated polyps are more commonly associated with benign lesions, while irregular surface structure and atypical vascular patterns may indicate premalignant or malignant transformation. The integration of hysteroscopic assessment with histopathological analysis provides the most reliable diagnostic approach and enables timely and appropriate clinical management. In conclusion, hysteroscopy should be considered the gold standard in the diagnosis and management of endometrial polyps in postmenopausal women.

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