



# Benign Endocervical Polyp with Coexisting Nabothian Cysts and Endocervical Hyperplasia Mimicking Malignancy: A Case Report

악성 병변처럼 보인 양성 자궁경부 용종 및 동반된 나보트 낭종과 자궁경부 비대증: 증례 보고

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This report presents a unique case of an endocervical polyp-mimicking malignancy on pelvic MRI in a 45-year-old female. The MRI depicted a multilocular cystic lesion with an enhancing solid component, raising suspicion for malignancy. However, histopathological examination definitively revealed a benign endocervical polyp. This case highlights the limitations of diagnosing cervical lesions solely on MRI features, emphasizing the potential for benign conditions to mimic malignancy.

**Index terms** MRI; Endocervical Polyp; Malignancy

## INTRODUCTION

Endocervical polyps, one of the most frequent causes of intermenstrual vaginal bleeding, particularly affects perimenopausal women, especially those in their fifth decade of life (1). These growths, commonly visualized on MRI as masses, with or without cysts, filling the endocervical or vaginal canal (2), can present intriguing diagnostic challenges. This report delves into an unusual case where an endocervical polyp mimicked malignancy on MRI, appearing as a multilocular cystic lesion. However, the final pathology unveiled the benign nature of this deceptive mass.

## CASE REPORT

A 45-year-old female with a history of tamoxifen therapy for breast cancer (2014–2019) presented to the gynecology department with prolonged abnormal uterine bleeding. Physical examination revealed mucoid, blood-tinged cervical discharge, and a palpable protruding

**Fig. 1.** A 45-year-old female with benign endocervical polyp mimicking malignancy.

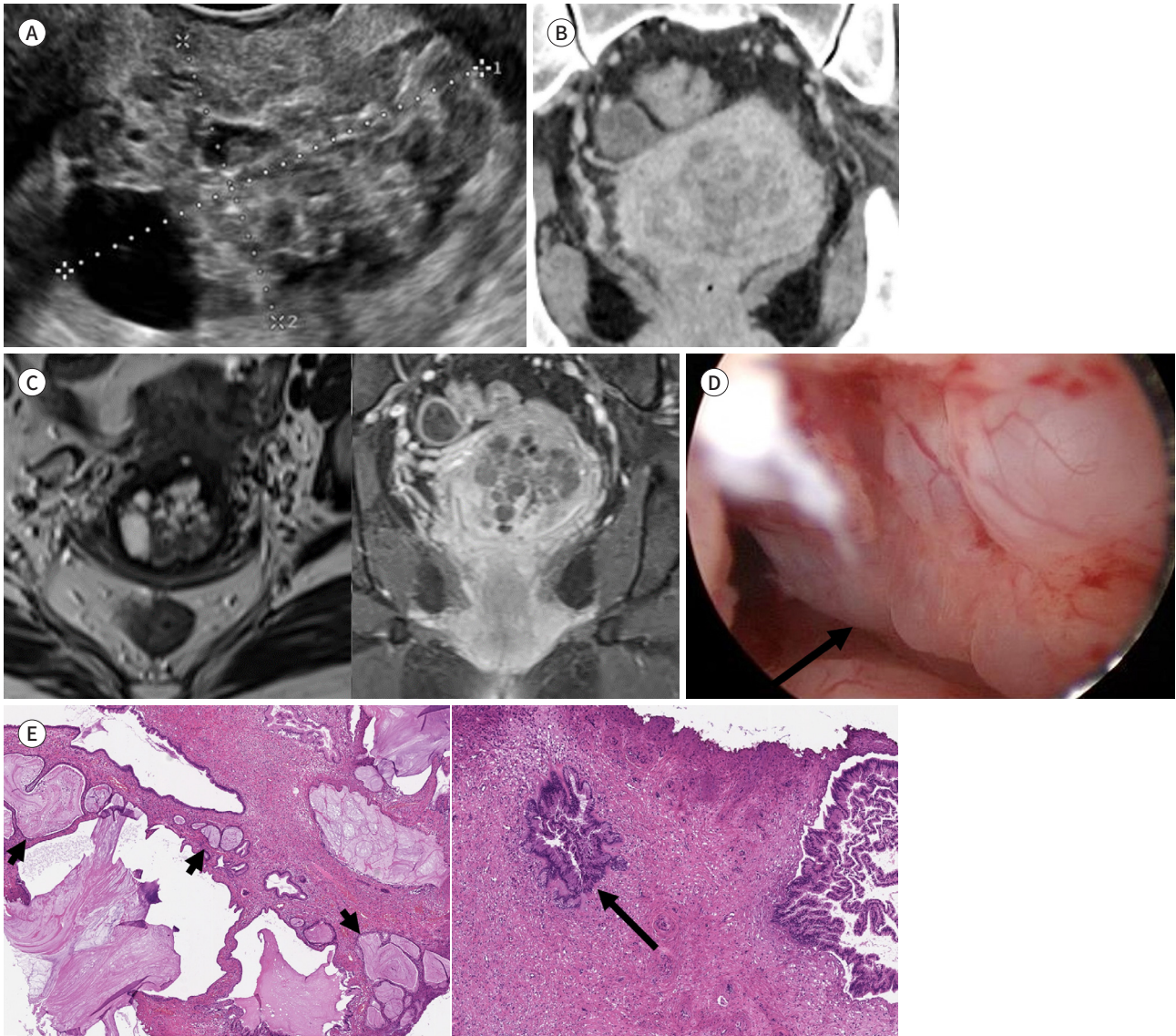
**A.** Transvaginal US. A 4 cm mass with echogenic solid and multifocal anechoic cystic components is visible in the uterine cervix. Three follow-up examinations over eight months showed no significant changes in the lesion's size or features.

**B.** Delayed phase coronal view of abdominopelvic CT shows an enlarged uterine cervix containing a mass. Multiple low-density lesions and a faintly enhancing solid component are evident within the mass.

**C.** Axial T2-weighted image (left) and coronal contrast-enhanced T1 fat-suppressed image (right) show a multilocular cystic lesion in the uterine cervix.

**D.** Hysteroscopy. A cystic portion with lobulated margins is visualized within the cervix (arrow).

**E.** Histopathology photomicrograph (hematoxylin and eosin stain,  $\times 40$ ) shows a mass containing a mucin-filled cystic portion lined with glandular cells (short arrows) and areas of glandular cell hyperplasia (long arrow). This image confirms the diagnosis of an endocervical polyp.



mass. Transvaginal ultrasonography identified a uterine cervical mass with an echogenic solid component and multifocal anechoic cysts. The mass measured 4.2 cm × 2.7 cm on June 9, 2022, decreased slightly to 3.4 cm × 2.7 cm by November 1, 2022, and demonstrated no significant change (4.2 cm × 2.7 cm) by January 31, 2023, suggesting stable size during this period (Fig. 1A).

Epigastric pain prompted abdominopelvic CT, which revealed a mass with multifocal low-density lesions and a mildly enhanced solid component in the uterine cervix (Fig. 1B). This enhancement raised concerns regarding a possible neoplastic process.

Pelvic MRI further visualized a multilocular cystic lesion and an enlarged cervix. On T2-weighted imaging (T2WI), the cystic portion appeared hyperintense, while the solid portion demonstrated isointensity. Compared to muscle, the lesion remained isointense on T1-weighted imaging (T1WI). However, the solid portion or septa-like structure displayed enhancement on contrast-enhanced T1WI. The multilocular cystic lesion measured up to 4.6 cm (Fig. 1C).

Based on these MRI findings, the preoperative differential diagnoses encompassed both benign entities (e.g., nabothian cysts and cervicitis) and malignant conditions (e.g., adenocarcinoma).

Hysteroscopy revealed that the lesion was in the cervix, featuring lobulated margins and a seemingly cystic component (Fig. 1D). Histopathological examination confirmed the presence of a benign endocervical polyp. The cystic portion appeared filled with mucin and lined by glandular cells exhibiting hyperplasia in some areas (Fig. 1E). These findings solidified the diagnosis of an endocervical polyp.

This study was approved by the Institutional Review Board of our institution and the requirement for informed consent was waived (IRB No. 2023-09-015).

## DISCUSSION

Endocervical polyps are benign growths originating from the endocervical canal, affecting roughly 2%–5% of women during their reproductive years (3). Their development likely stems from focal hyperplasia of the endocervical glandular epithelium, potentially triggered by chronic inflammation, abnormal hormonal response, or localized vascular congestion. The association between cervical polyps and endometrial hyperplasia further suggests a significant role of high estrogen levels in their etiology (4). In this case, the patient's history of tamoxifen use is crucial, as this medication possesses estrogenic effects known to increase the incidence of endocervical cell hyperplasia, metaplasia, and vaginal epithelial maturation (5).

While most cases remain asymptomatic, some patients experience vaginal discharge, intermenstrual bleeding, heavy menses, postcoital bleeding, or postmenopausal bleeding (6). For patients presenting with abnormal uterine bleeding, hysteroscopic evaluation serves as a valuable diagnostic tool. It not only provides a precise view of the polyp peduncle but also allows for potential identification and treatment of concurrent, asymptomatic intrauterine pathologies (4).

Pelvic MRI findings for endocervical polyps can vary, but often showcase a large, multicystic mass filling the endocervical canal (2). In some cases, the MRI might depict a well-defined mass with low signal intensity on T1WI, and high signal intensity on T2WI, displaying

smooth margins and mild homogeneous enhancement (7). Additionally, T2-weighted sagittal pelvic MRI has been reported to reveal a large pedunculated mass with irregular papillary surfaces arising from the endocervix and extending into the vagina. These lesions can exhibit strong enhancement, potentially mimicking a malignant process (1).

The crucial element in characterizing and differentiating multilocular cystic cervical lesions on pelvic MRI lies in the presence or absence of an enhancing solid component or septa-like structures (8). Gastric-type mucinous adenocarcinoma (GAS) frequently presents with multi-cystic or mixed solid and cystic patterns (9). MRI findings of GAS may include a high-signal multicystic lesion on T2WI with a solid-enhancing component that infiltrates deeply into the cervical stroma (10). Alternatively, GAS lesions might appear as solid masses with minimal cystic components, or even entirely cystic without a significant solid mass (10).

In our presented case, an enhanced solid portion or septa-like structure was identified on contrast-enhanced T1WI. Furthermore, the lesion demonstrated a mildly high signal intensity on diffusion-weighted imaging and a low signal intensity on apparent diffusion coefficient mapping. These findings raised concerns about the possibility of malignancy. However, the final diagnosis after further investigation and biopsy revealed a benign endocervical polyp.

Indeed, other studies have documented cases where an enhanced septa-like structure mimicked a gastric-type mucinous well-differentiated adenocarcinoma (adenoma malignum) and was ultimately diagnosed as either endocervical hyperplasia or conglomerated nabothian cysts (8). This complexity is precisely what the presented case exemplifies. It highlights the ongoing challenge of reliably differentiating between malignant and benign cystic lesions, and subsequently establishing a definitive diagnosis.

This report demonstrates a rare case of a benign endocervical polyp that, on pelvic MRI, presented deceptively with features mimicking malignancy. This case underscores the inherent complexity in characterizing and differentiating multilocular cystic lesions in the uterine cervix. While the presence of an enhanced solid portion or septa-like structure often raises suspicion of malignancy in such lesions, our case exemplifies how even benign conditions can exhibit these features, potentially leading to an initial misdiagnosis. This unexpected presentation highlights the nuanced and intricate nature of the diagnostic process, particularly in the realm of multilocular cystic lesions. It reinforces the need for ongoing research in this field to refine our understanding of these diverse presentations and ultimately improve diagnostic accuracy.

### Author Contributions

Conceptualization, S.J.W.; writing—original draft, P.S.M.; and writing—review & editing, all authors.

### Conflicts of Interest

The authors have no potential conflicts of interest to disclose.

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## 악성 병변처럼 보인 양성 자궁경부 용종 및 동반된 나보트 낭종과 자궁경부 비대증: 증례 보고

박수민 · 서정욱\*

45세 여자 환자에게 발생한 양성 자궁경부 용종이 골반 자기공명영상에서 악성 종양과 유사하게 보인 증례 보고이다. 자궁경부에 발생한 다방성 낭성 병변은 조영증강되는 고형 성분이 보였고 악성 가능성을 시사했다. 그러나 최종 병리학적 진단은 이 병변을 양성 자궁경부 용종으로 진단했다. 이 사례는 자기공명영상 소견만으로 자궁경부 병변을 진단하는데 한계가 있음을 지적하며, 양성 종양이 악성 종양과 유사하게 보일 수 있음을 보여준다.

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