

# Coexistence of Primary Umbilical Endometriosis and Endometrial Hyperplasia: A Case Report and Review of the Literature

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**Background:** Unusual ectopic growth of endometrial tissue in the umbilicus of a patient who has not undergone surgery is known as primary umbilical endometriosis. When a patient presents with an umbilical nodule, whether or not they have symptoms, it is critical to have a high index of suspicion.

**Case Summary:** Here, we present a rare case of umbilical endometriosis with concurrent endometrial hyperplasia in a 40-year-old para II patient from Western Ethiopia. A total abdominal hysterectomy and umbilical nodule excision were performed under general anesthesia. After two months, she returned for a follow-up visit and was in good health.

**Conclusion:** Primary umbilical endometriosis may coexist with endometrial hyperplasia. Hence, in order to provide suitable comprehensive management, a thorough gynecological evaluation is required.

**Keywords:** umbilical endometriosis, umbilical nodule, endometrial hyperplasia

## Introduction

Endometrial tissue that is present outside of the uterus is termed as endometriosis.<sup>1-3</sup> The endometrial tissue might be implanted wherever. But pelvis is the most common site.<sup>1,2</sup> Cutaneous endometriosis is the term for endometriotic implants that are present in the skin.<sup>2</sup> The umbilicus is where cutaneous endometriosis most frequently occurs.<sup>4</sup> Umbilical endometriosis accounts for about 0.5–1% of extragenital endometriosis.<sup>5-7</sup> It can develop on its own, as in the case of primary umbilical endometriosis or follows prior surgery as in the case of secondary endometriosis.<sup>2,4</sup> Villar initially identified primary umbilical endometriosis in 1886 and thus the umbilical nodule is referred as Villar's nodule.<sup>4</sup>

Patients with umbilical endometriosis may not exhibit any symptoms or present with various complaints.<sup>3,8,9</sup> Here we present a case of umbilical endometriosis with concomitant endometrial hyperplasia and presented with typical triads of the umbilical nodule, cyclic pain, and bleeding from the umbilicus.

## Case Presentation

This is a 40-year-old para 2 patient from Western Ethiopia who presented to Aba Sena Primary Hospital (ASPH) with triads of umbilical swelling, cyclic umbilical pain and bleeding for 5 months. Her menses comes every 29 days and stays for 5 days. She uses 2 to 3 pads over 24 hours. There is no history of lower abdominal pain.

She had no trauma to her abdomen or umbilicus. She denied bleeding from other body parts. She has no history of urinary or bowel complaints. Both her previous deliveries were spontaneous vaginal deliveries at local health center. She had unremarkable obstetrics complications. She was using jadelle for contraception, but she stopped using it two years before her current presentations. She had completed her family size. Her prior gynecologic, surgical and medical histories are not noteworthy.

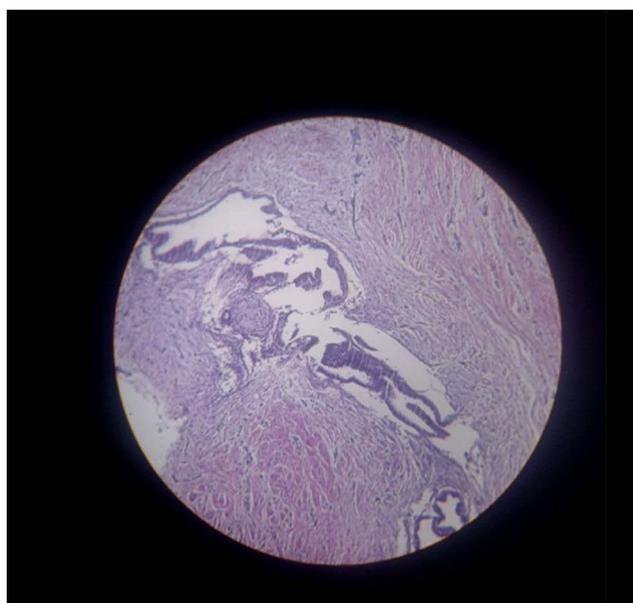


**Figure 1** Primary umbilical nodule of a 40-year-old patient, Aba Sena Primary Hospital, Western Ethiopia, 2023.

She attended clinics and other health institutions where she received treatment with various drugs for the aforementioned ailments. She went to this owing to the lack of improvements.

On examination, she was healthy-looking. Her vital signs were blood pressure (BP) = 123/76mmHg, pulse rate (PR) =84 beats per minute, respiratory rate (RR) =18 breaths per minute, and temperature of 36.5°C. She had pink conjunctivae. Lympho-glandular system, chest, and cardiovascular system were normal. On abdominal examination, there was 2cm by 1.5cm non-tender brownish umbilical nodule (Figure 1). Speculum examination shows no lesion on cervix. The uterus is not enlarged on bimanual exam. On the integumentary system, she had no palmar pallor. On neurologic examination, she was oriented to time, person, and place. She had normal reflexes and no neurologic deficits.

An ultrasound of the abdomen and pelvis revealed a 10.3mm thickening of the endometrium. An endometrial biopsy was performed as a result, and the results revealed endometrial hyperplasia without atypia. The surface epidermis of the umbilical nodule is lined by regular stratified squamous epithelium, and the underlying dermis contains nests of benign endometrial glands and stroma as well as hemosiderin pigments embedded in fibrous tissues suggesting endometriosis, according to fine needle aspiration cytology (FNAC) results (Figure 2). During the laboratory inquiry, the results of the chest X-ray (CXR), complete blood count, liver function tests, renal function tests, and urinalysis were all normal (Table 1).



**Figure 2** Histopathology of umbilical nodule showing benign endometrial tissue with skin overlying it.

**Table I** Laboratory Investigation Results of a 40-Year-Old Patient with Primary Umbilical Endometriosis, Western Ethiopia, 2023

Lists of Investigation	Result	Reference Ranges
WBC	9,5000/ $\mu$ L	3600–9000/ $\mu$ L
Hemoglobin	14.2g/dl	12–16g/dl
Platelet	205,000/ $\mu$ L	140,000–420,000/ $\mu$ L
Random blood sugar	100mg/dl	100–125mg/dl
Blood group and Rh	O positive	*
Creatinine	0.3 mg/dl	0.5–1.1 mg/dl
Blood urea nitrogen (BUN)	15.66 mg/dl	5–20 mg/dl
Aspartate aminotransferase (AST)	34 IU/l	0–40 IU/L
Alanine transaminase (ALT)	28 IU/l	0–41 IU/L
Urinalysis	Non-revealing	Depends on the specific test
Abdominopelvic ultrasound	Thickened endometrium	*
Chest X-ray	Un remarkable	*

**Note:** \*No specific range.

With the final diagnosis of primary umbilical endometriosis and endometrial hyperplasia, the patient was prepared for surgery. The uterus, ovaries, and tubes appear healthy intraoperatively. On the pelvic peritoneal surfaces, there were no adhesions or any signs of endometriosis. A total abdominal hysterectomy and umbilical nodule excision (Figure 3) were



**Figure 3** Excised primary umbilical nodule from a 40-year-old patient, Aba Sena Primary Hospital, Western Ethiopia, 2023.

performed under general anesthesia. The patient's surgical recovery went without a hitch, and on the fifth day, the hospital discharged the patient. After two months, she returned for a follow-up visit and was in good health. Subsequent follow up plan was also arranged.

## Discussion

A rare condition, 0.5–4% of cases of endometriosis are caused by umbilical endometriosis.<sup>3,5</sup> Yet, the precise etiology is still unclear.<sup>10,11</sup> There are various hypotheses on the pathophysiology of primary umbilical endometriosis, though.<sup>3,12</sup> Endometrial cells can spread through the blood or lymphatic system from the peritoneum to the umbilicus through obliterated umbilical arteries, metaplasia of the urachus remnant, or the release of endometrial cells that can contaminate the emergence of the umbilical cord during labor and delivery.<sup>6,8,9</sup>

Umbilical endometriosis usually presents with painful umbilical mass with periodic discharge or bleeding.<sup>3,10</sup> The patient in this case exhibits the classic trio of an umbilical nodule, cyclic pain, and bleeding, which is an intriguing aspect of the case. Endometrial hyperplasia is another noticeable feature, and it highlights the value of gynecological evaluation in patients with umbilical endometriosis in order to detect any pelvic involvement or other concurrent gynecologic disorders.<sup>3,8,13</sup> In our case, the patient exhibited endometrial hyperplasia but there were no visible signs of pelvic endometriosis. Its coexistence has not yet been documented.

It might be challenging to distinguish clinically between primary umbilical endometriosis and other causes of an umbilical nodule. Umbilical nodules have a wide range of differential diagnoses, from benign conditions (such as granuloma, abscess, sebaceous cyst, lipoma, hemangioma, and umbilical hernia) to malignant conditions (such as Sister Mary Joseph nodule, melanoma, adenocarcinoma, sarcoma, and lymphoma).<sup>5,7,10,12</sup> In our case, the patient presented with typical symptoms, and FNAC confirmed the diagnosis.

For the purpose of a clinical workup, the initial evaluation of primary umbilical endometriosis is essentially clinical. The current gold standard for its diagnosis is histopathological confirmation.<sup>10–12</sup> A useful invasive diagnostic method is fine-needle aspiration cytology (FNAC). Yet, it can result in the nucleation of endometriotic tissue in new locations, worsening the disease.<sup>12,14</sup> Moreover, the report can be 75% inconclusive.<sup>12</sup> In our case, the nodule was reachable, making FNAC simple. The anatomical relationships between the nodule and the surrounding tissues can be investigated using radiological techniques such as magnetic resonance imaging, computerized tomography, and ultrasound.<sup>7,8,12</sup>

There is no clear guideline on the management of umbilical endometriosis.<sup>11</sup> Most reports recommend surgical excision as a treatment of choice. Recurrence following excision is said to be uncommon.<sup>3,5,8,15</sup> Hormone therapy can be administered prior to surgery to reduce symptoms and shrink big lesions, but it does not have a curative effect.<sup>16</sup> For umbilical endometriosis, in our case, local excision was done.

Endometrial hyperplasia is a precancerous lesion of the endometrium that causes a proliferation of endometrial tissue and changes to the architecture of the glands and the relationship of the endometrial gland to the stroma.<sup>17</sup> Endometrial hyperplasia is divided into simple and complex hyperplasia, with or without atypia, according to the World Health Organization.<sup>18</sup> Progestins are typically used to treat endometrial hyperplasia without atypia, while hysterectomy is the best option for endometrial hyperplasia with atypia. It's interesting to note that individuals who are concerned about their ability to have children might choose a fertility-sparing treatment for endometrial hyperplasia or early-stage endometrial cancer.<sup>19–21</sup> In our situation, a total abdominal hysterectomy was performed because the patient had reached her optimal family size.

## Conclusion

Rarely, endometrial hyperplasia may also coexist with primary umbilical endometriosis. Hence, in order to provide suitable comprehensive management, a thorough gynecological evaluation is required.

## Abbreviations

CXR, chest x-ray; FNAC, Fine needle aspiration; ASPH, Aba Sena Primary Hospital.

## Data Sharing Statement

The datasets used during the current study are available from the corresponding author on reasonable request.

## Ethics Approval and Consent to Participate

Ethical clearance was obtained from the Research Ethics Review Committee of Wollega University. The study protocol is performed per the relevant guidelines.

## Consent for Publication

Written informed consent (consent to participate) was obtained from human participant for publication of this case report.

## Authors' Detail

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## Author Contributions

All authors made a significant contribution to the work reported, whether that is in the conception, study design, execution, acquisition of data, analysis, and interpretation, or in all these areas; they took part in drafting, revising, or critically reviewing the article; gave final approval of the version to be published; have agreed on the journal to which the article has been submitted, and agree to be accountable for all aspects of the work.

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There are no competing interests.

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