Uterine Lipoleiomyoma in a Perimenopausal Woman

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Case Report

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Abstract

Background

Uterine lipoleiomyoma is a rare tumor of uterus. The authors reported a case of submucosal uterine lipoleiomyoma that presented with vaginal spotting. The clinical presentation, ultrasound imaging, hysteroscopy, and histopathological findings are documented in this report.

Case presentation

A 53-year-old perimenopausal woman presented to our gynecology clinic with vaginal spotting that did not correlate with her menstruation. She had experienced vaginal spotting almost every day for 2 months, but her normal menstruation had occurred 3 months previously. Pelvic examination was unremarkable. Transvaginal ultrasound showed a retroverted uterus with irregularities in the endometrial lining that were suspicious for endometrial polyps as well as an approximately 37- × 39-mm hyperechoic mass with hypoechoic borders at the anterior wall of the uterus. Both ovaries were unremarkable. Endometrial polyps and uterine leiomyoma were suspected. Endometrial sampling revealed endometrial polyps. Hysteroscopy showed a submucosal uterine mass; tissue was sent for pathology, and lipoleiomyoma was confirmed.

Conclusion

Uterine lipoleiomyoma is a rare variant of uterine leiomyoma. No previous reports have described malignant transformation. Therefore, conservative treatment is acceptable if asymptomatic. After the procedure, our patient went into a menopausal transition period and had no symptoms.

Background

Uterine lipoleiomyoma is a very rare tumor that is mostly found in postmenopausal women. Its incidence was 0.03–0.2% as reported by Willen et al. in 1978 and 2.9% as reported by Akbulut et al. in 2014. Lipoleiomyoma is a variant of leiomyoma, and the two tumors thus exhibit similar features. More than 80% of lipoleiomyomas are found in postmenopausal women, and unlike usual uterine leiomyoma, uterine lipoleiomyoma can still grow after menopause.[1] These tumors are usually incidental findings; however, some may have severe symptoms. Diagnosis of lipoleiomyoma may be difficult because of its rarity. Few cases have been reported in the literature, and the present case is the first to be reported in Thailand. The purpose of this report is to increase awareness and acknowledgement of uterine lipoleiomyoma.

Case Presentation
A 53-year-old perimenopausal woman presented to the Woman Health Center of Chulabhorn Hospital, Bangkok, Thailand with a 2-month history of vaginal spotting. Her regular menstrual period had occurred 3 months previously, and it usually occurred at an interval of 2 to 3 months. She denied any abdominal discomfort, abdominal pain, frequent urination, changes in bowel habits, or constitutional symptoms. Her medical history included well-controlled essential hypertension. Her last pelvic examination had been performed 1 year previously with normal cervical screening results. The patient had two children and had given birth naturally. She denied a family history of cancer and any past surgery. Abdominal and pelvic examination findings were unremarkable.

Transvaginal ultrasonography showed a retroverted uterus with irregularities in the endometrial lining that were suspicious for endometrial polyps as well as an approximately 37- × 39-mm hyperechoic mass with hypoechoic borders at the anterior wall of the uterus. Both ovaries were unremarkable (Fig. 1). The uterine mass did not have increased vascularity on a color flow Doppler ultrasound.

The provisional diagnosis for the uterine mass was leiomyoma. In the ultrasound examination, the endometrial lining was totally visualized and seemed to be separated from the hyperechoic mass in the myometrium. The differential diagnosis for the abnormal vaginal bleeding was endometrial pathology, leiomyoma, and anovulation. Endometrial sampling was performed, and the pathological report suggested benign endometrial polyps.

On the second visit, the patient's vaginal spotting persisted; therefore, hysteroscopic resection of the endometrial polyps was scheduled. We performed an uneventful 50-minute procedure. Atrophic endometrium was observed, and a yellow intrauterine mass of about 4 cm was protruding from the anterior wall of the uterus. Both tubal ostia were normal (Fig. 2). Tumor removal was attempted, but the whole mass could not be removed because of its large size. We retrieved multiple soft, yellow tissue specimens from the uterine mass and sent them for pathological examination. After the procedure, patient fully recovered and was discharged from the clinic.

Microscopic examination showed fragmented tissue consisting of interlacing fascicles of spindle cells containing uniform blunt-ended nuclei without mitosis. Thick-walled blood vessels and nests of adipocytes were present within the tumor, suggesting lipoleiomyoma (Fig. 3).

After the surgery, the patient’s menstruation ceased, and she had no further vaginal spotting. Because she appeared to be in menopausal transition, we decided on conservative treatment and follow-up. After 6 months of follow-up, the patient had no abnormal bleeding or any other symptom. We planned to perform hysterectomy if the patient developed any symptoms.

**Discussion**

Uterine lipoleiomyoma is a variant of uterine leiomyoma, and these two tumors can have similar clinical presentations. Most patients are asymptomatic, whereas others may present with abdominal discomfort, abnormal vaginal bleeding, pelvic pain, constipation, or increased urination frequency. Ultrasound is the
first-choice imaging modality for diagnosis of lipoleiomyoma, as for other uterine tumors. Ultrasound shows a well-circumscribed mass that is hyperechoic with a partially hypoechoic rim and has poor vascularity on color Doppler examination. Computed tomography (CT) and magnetic resonance imaging (MRI) can help in the diagnosis and are more specific in demonstrating the origin of the tumor and fatty component.[2] However, even with CT or MRI, lipoleiomyoma is difficult to diagnose. A retrospective study of 51 patients who were diagnosed with lipoleiomyoma postoperatively showed that only 14% were correctly diagnosed. A correct preoperative diagnosis can help to avoid unnecessary procedures.[3] In the present case, only transvaginal ultrasonography was performed. The uterine mass was thought to be separate from the uterine cavity. If saline infusion sonography, CT, or MRI had been performed, localization of the mass would have been more accurate.

Lipoleiomyoma is usually located in the uterus, although cervical, ovarian, broad ligament, and retroperitoneal locations have been reported.[4] The etiology is not clear, but many hypotheses have been proposed. The most widely accepted theory is fat metamorphosis of smooth muscle cells into adipose tissues.[5] Some authors have suggested that patients with lipoleiomyoma have impaired fat metabolism that is associated with concomitant metabolic disorders.[6] However, our patient had no metabolic disorders.

Differential diagnoses include benign cystic ovarian teratoma, pelvic lipoma, and pelvic liposarcoma. Lipoleiomyomas have presentations similar to those of leiomyomas, but they can grow larger in postmenopausal women (unlike leiomyoma, which usually decreases in size in the postmenopausal period). The treatment is surgical removal of the tumor if the patient is symptomatic, the diagnosis is unclear, or there is a concern regarding malignancy.[7] The tumor is benign and has a good prognosis after long-term follow-up. If the patient is asymptomatic and the diagnosis is unquestioned, conservative treatment is appropriate. Our patient's symptom was abnormal uterine bleeding, which may have been due to the previous endometrial polyps or from the submucosal lipoleiomyoma. However, the submucosal lipoleiomyoma was more likely to have been the cause because no polyps were seen under hysteroscopy; all endometrial polyps had already been removed through endometrial sampling, and the patient's symptom persisted after endometrial sampling. After the procedure, she had no further abnormal uterine bleeding, and her menstrual interval increased. Thus, menopausal transition was suspected, and conservative treatment was appropriate.

**Conclusion**

Uterine lipoleiomyoma is very rare and not well known among gynecologists. It can have similar clinical presentations as uterine leiomyoma. Ultrasound is an appropriate choice of imaging; however, CT and MRI can be more specific because they can differentiate fat tissues better. If the diagnosis is certain and the patient is asymptomatic, conservative treatment is preferred. In symptomatic patients, surgical removal of the tumor is suggested. The prognosis is good and it has very few chance of malignancy transformation.
Declarations

Ethics approval

Ethics was approved from human research ethics committee at Chulabhorn Royal Academy with project code EC 024/2565.

Consent for publication

Informed consent to publish identifying information was obtained from the participant in this study.

Availability of data and materials

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

Competing interests

The authors declare that they have no competing interests.

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Authors’ contributions

PS wrote the manuscript. KN reviewed patient’s information and investigations. NK revised the manuscript.

References


**Figures**

**Figure 1**

Transvaginal ultrasound (A) showed a retroverted uterus of 70 × 89 mm, irregularities of the endometrial lining, endometrial thickness of 7.7 mm, and (B) a 37- × 39-mm hyperechoic mass with a hypoechoic border at the anterior wall of the uterus.
Figure 2

Hysteroscopy showed a yellow intrauterine mass size about 4 cm protruding from the anterior wall of the uterus.

Figure 3

(A) Photomicrograph of the fragmented uterine mass revealed a soft tissue tumor consisting of bland spindle cells intermixed with fat tissue. Hyalinized blood vessels were also seen. (B) The spindle cells possessed oval/spindle bland nuclei, open chromatin, indistinct nucleoli, and no increase in mitotic activity.