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Exophytic Lipoleiomyoma of the Uterus Mimicking Ovarian Teratoma: A Case Report[1]

Jongchul Kim, M.D.

Lipoleiomyoma is a rare benign neoplasm of the uterus. I present here a case of exophytic uterine lipoleiomyoma in a 77-year-old woman. Due to its exophytic nature, this fatty tumor mimicked ovarian teratoma on the imaging studies.

Index words : Uterine neoplasms
Uterine neoplasms, CT
Leiomyoma
Uterus, US

Lipoleiomyoma of the uterus is a rare benign mesenchymal neoplasm that contains mature adipose tissue, smooth muscle and connective tissue (1, 2). It may sometimes be difficult to differentiate the exophytic, subserosal or pedunculated uterine lipoleiomyoma from the much more common ovarian cystic teratoma on the imaging studies (1, 3), especially when the origin of this tumor is ambivalent or uncertain. We report here on a case of pathologically proven uterine lipoleiomyoma, which was considered to be a right adnexal tumor such as ovarian teratoma both on the preoperative ultrasonography and CT.

Case Report

A 77-year-old postmenopausal woman was admitted to our hospital due to her chief complaint of right lower quadrant abdominal pain. The physical examination on admission revealed mild tenderness and a palpable mass of a fetal head size in the right pelvic cavity and the right lower abdomen. Transabdominal ultrasonography was done at the gynecologic department in our hospital, and it showed a large solid mass with strongly hyperechoic areas and some posterior acoustic shadowing in the right adnexal area (Fig. 1A). CT, which was performed at the local clinic before admission to our hospital, demonstrated a large, well-circumscribed, encapsulated, heterogeneous mass in the right pelvic cavity. This pelvic mass on the post-contrast CT showed mixed areas of inhomogeneous hypodense fatty areas, non-fatty lacy soft tissue areas, an enlarged thick wall and multiple septa. Unfortunately, the slices of the pelvic images of the pre-contrast CT scan at the local clinic were not available. This mass abutted on the right lateral border of the urinary bladder and the right anterior aspect of the senile atrophic uterus (Figs. 1B - D). After the examination of this single-phase contrast enhanced CT, this tumor was considered to be an adnexal tumor rather than a uterine tumor due to the lack of any association between this mass and the adjacent round ligament. Among the various tumors associated with or originating from the ovary, fallopian tubes, the broad ligament or the pelvic soft tissue, right ovarian immature teratoma or its malignant transformation seemed to be more probable due to the inner fatty components of this

[1]Department of Diagnostic Radiology, Chungnam National University Hospital, Daejeon, Korea.
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Address reprint requests to : Jongchul Kim, M.D., Department of Diagnostic Radiology, Chungnam National University Hospital, 640 Daesa-dong, Jung-gu, Daejeon 301-721, Korea.
Tel. 82-42-220-7835 Fax. 82-42-253-0061
E-mail: jckim@cnu.ac.kr

adnexal mass, along with the lacy enlargement and relatively thick wall. On the basis of these preoperative findings by the radiologists and gynecologists, total hysterectomy with bilateral salpingo-oophorectomy was performed. At the operation, both adnexa were free from any pathology, and a solid mass with a multinodular yellow cut surface was found on the uterine body, which was considered to be a degenerated uterine leiomyoma. The final pathologic diagnosis was uterine lipoleiomyoma, and this consisted of mature lipocytes, smooth muscle cells and connective tissue.

Discussion

Uterine lipoleiomyomas are uncommon benign neoplasms that consist of smooth muscle and mature adipose tissue. The incidence of this tumor has been reported to be between 0.03 % and 0.2% (4). As for this case, it is known that uterine lipoleiomyoma is a typical finding in postmenopausal women from 50 to 70 years old, and 90% of the patients with this diagnosis are older than 40 years of age (5). This tumor is usually found in the uter-

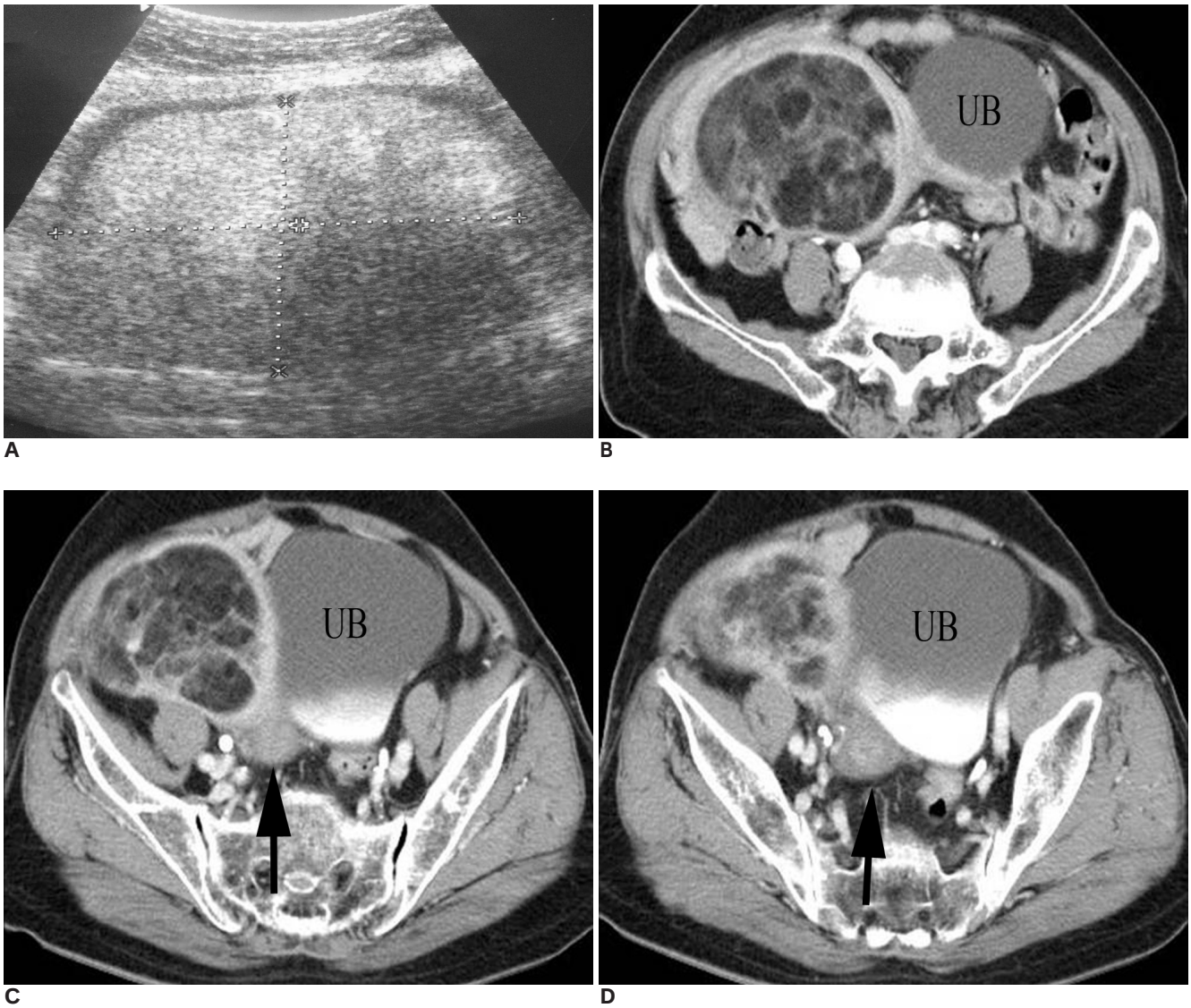

Fig. 1. A case of exophytic uterine lipoleiomyoma mimicking right ovarian teratoma in a 77-year-old woman.
A. Transabdominal pelvic ultrasonography shows a large mixed echoic mass with strongly hyperechoic areas and some posterior acoustic shadowing in the right adnexal area.
B-D. Contrast-enhanced pelvic CT demonstrates a large, encapsulated, heterogeneous mass with predominantly hypodense fatty areas, non-fatty lacy soft tissue areas and an enhancing peripheral soft tissue band in the right pelvic cavity that abutted the right lateral border of the urinary bladder (UB) and the right anterior aspect of senile atrophic uterus (arrow). It was originally considered to be a right ovarian teratoma, but postoperative pathology revealed the tumor to be an exophytic uterine lipoleiomyoma.

ine body, and it is generally an intramural neoplasm; however, its location may be subserosal (4). Uterine lipoleiomyoma is generally associated with uterine leiomyoma and its management is identical to that of leiomyoma (4). Patients with this tumor may be asymptomatic. Yet the symptoms, when present, may include uterine bleeding, chronic pelvic discomfort, heaviness, pressure and etc. Our postmenopausal patient complained only of the right flank pain without other symptoms. Due to the patient's nonspecific symptoms and the uncertain origin of this pelvic mass on ultrasonography, the clinical diagnosis by the gynecologist, who performed the pelvic ultrasonography, was ovarian tumor.

Uterine lipoleiomyoma usually appears on ultrasonography as a well-defined hyperechoic mass with a partial hypoechoic ring (4, 6). CT may reveal a large, encapsulated, heterogeneous, predominantly fatty mass with non-fatty soft-tissue densities arising from the uterus (4).

Because of the fat content and its possible exophytic nature, uterine lipoleiomyoma may mimic the much more common benign cystic ovarian teratoma on the imaging studies (1, 3). Asymptomatic lipoleiomyomas require no treatment as they are clinically similar to uterine leiomyomas. It is important to differentiate these uterine tumors from ovarian teratomas, which often require surgical removal (7), especially in case of torsion, hemorrhage, rupture, malignant changes and etc. The imaging diagnosis of ovarian teratoma, which is a tumor that represents 10 - 20% of all ovarian tumors, is usually straightforward when the ovarian tumor has fat or teeth. Yet sometimes it may require differentiation from exophytic fatty uterine tumor such as uterine lipoleiomyoma, lipoma, liposarcoma and etc. The differential diagnosis of uterine lipoleiomyoma includes not only ovarian teratoma, but also benign pelvic or uterine lipoma, liposarcoma, extraadrenal myelolipoma, angiomyolipoma, lipoblastic lymphadenopathy and retroperitoneal cystic hamartomas (1, 8).

Among their cases of uterine lipoleiomyoma, Prieto et al (4) report a case of subserosal lipoleiomyoma (4), and Tsushima et al report a case of exophytic tumor (7). The uterine lipoleiomyoma in our case seems to have a more exophytic nature compared with the other cases reported in the English language literature.

If the uterine mass shows an exophytic or pedunculated nature, the differentiation of this uterine mass from ovarian mass may be difficult. The findings suggesting the uterine origin of a pelvic mass rather than the ovarian origin may be a positive 'bridging vessel sign', an association of the mass with the adjacent round ligament, the similar degree of the contrast enhancement of the mass to the myometrium, visualization of normal ovaries and etc. In our case, the exophytic uterine mass containing a fat component was misdiagnosed as a right adnexal tumor. Among various tumors originating from the ovary, the fallopian tube, the broad ligament or the pelvic soft tissue, right ovarian teratoma seemed to be more probable at the time of the initial diagnosis due to the inner fatty components of this adnexal mass and when considering this tumor's higher incidence. However, the retrospective analysis of the CT findings from the local clinic suggested the possible exophytic nature of this fatty mass as originating from the uterus because the enlarged thick wall of this mass was smooth and continuous with the surrounding uterine muscle, while the degree of the contrast enhancement of the walls of this mass was similar to the myometrium. If the abdominopelvic CT had been taken in our hospital, the coronal and sagittal reconstruction images might have been more helpful to indicate the exophytic uterine lipoleiomyoma rather than ovarian teratoma. Visualization of the normal right ovary in this case might have also helped us to arrive at the correct diagnosis of this tumor.

When the imaging studies show a fat-containing eccentric pelvic mass, it is prudent for physicians to remember that exophytic uterine lipoleiomyoma can mimic fatty adnexal tumors such as ovarian teratoma.

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난소 기형종으로 오인된 자궁의 외장성 지방근종: 증례 보고[1]

[1]충남대학교병원 진단방사선과

김 종 철

지방근종은 자궁에 생기는 드문 양성 종양이다. 77세 여자에서 발생한 자궁지방근종을 보고하고자 한다. 종양의 외방증식 양상 때문에 지방을 함유한 이 종양은 영상 소견에서 난소기형종으로 오인되었다.