

Uterine Lipoleiomyoma

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Citation

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Abstract

Lipoleiomyoma is rare benign uterine tumour. Although radiological findings of lipoleiomyoma have been reported previously in one form or other; but ultrasonography (USG), computed tomography (CT) and magnetic resonance imaging (MRI) findings together have been reported only in few cases. Here in us report a case in which characteristic fat component has been delineated by all imaging modalities namely USG, CT and MRI.

INTRODUCTION

Lipomatous tumor of uterine origin is a rare benign neoplasm. They are typically found in postmenopausal women and are associated with ordinary leiomyomas. The signs and symptoms are similar to those caused by leiomyomas of the same size, such as a palpable mass, hypermenorrhea, and pelvic pain.

The histological spectrum includes lipoleiomyoma and fibrolipomyoma, although pure lipomas have been reported. Majority of these tumors contains mesodermal tissue in various compositions. A lipomatous pelvic mass of uterine origin may be endophytic or exophytic. When the mass is exophytic, the diagnosis is more difficult, because its appearance simulate more common ovarian fatty tumor.

Although radiological findings of lipoleiomyoma have been reported previously in one form or other; but USG, CT and MRI findings together have been reported only in few cases. We report a case in which characteristic fat component has been delineated by all imaging modalities.

Due to benign nature of the entity, such diagnostic approach can avoid unnecessary surgery in asymptomatic patient.

CASE REPORT

A fifty five year old lady reported to radiology department for an USG pelvis with history of post menopausal bleeding of few months duration. Her clinical examination revealed bulky uterus with firm consistency. Pap smear study was unremarkable. USG pelvis was done using trans-abdominal approach. It revealed an enlarged uterus with a well defined echogenic mass at posterior uterine wall distorting and

elevating the uterine cavity. It measured about 4.13x2.90 cm in size with some acoustic shadowing (Fig. 1). Patient further underwent a post contrast CT examination of lower abdomen which revealed a minimally enhancing fat density lesion which measured about 4.20x3.00 cm in size located at the posterior uterine wall (Fig. 2, 3). Her further workup by MRI revealed the mass to be showing well defined hyperintense signal on T1 and intermediate signal on T2WI paralleling subcutaneous fat (Fig 4). Patient was subjected to laprotomy which revealed bulky uterus. Both ovaries and tubes appeared to be normal. Total hysterectomy with bilateral salpingo-oophorectomy was performed; peritoneal wash and nodal sampling was also performed. On microscopy it was displayed predominantly adipose tissue with very small smooth muscle cells consistent with a diagnosis of uterine lipoleiomyoma.

Figure 1

Figure 1: USG showing an echogenic mass in uterus

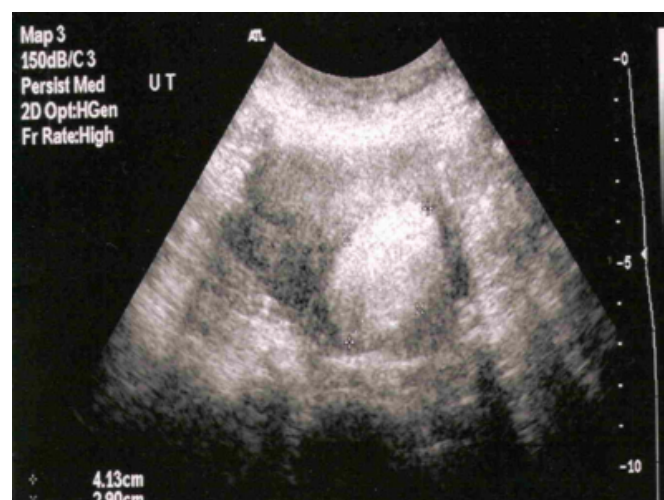


Figure 2

Figure 2: CT pelvis showing fat density mass in uterus



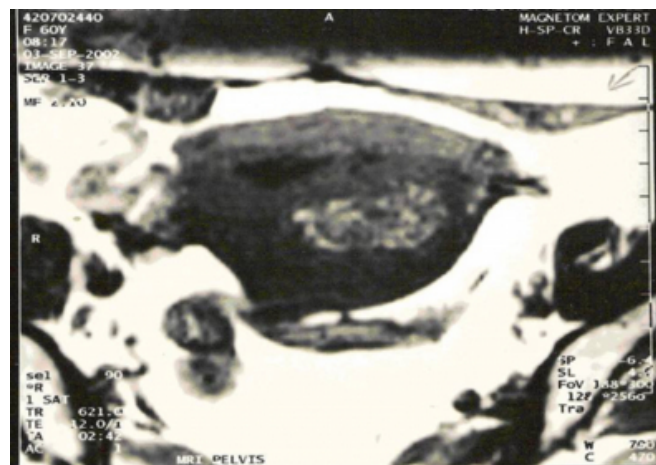
Figure 3

Figure 3: CT pelvis showing mass to be present at posterior wall of uterus



Figure 4

Figure 4: MRI pelvis (T1 image) showing hyperintense mass in uterus



DISCUSSION

The presence of fatty tissue in myometrium is anomalous. This variation has been interpreted as lipomatous degeneration, metaplasia of smooth cells or as a real neoplasm, the so called lipoleiomyoma. In a pathological series, the incidence of uterine lipoleiomyoma was estimated at 0.8% of all leiomyomatosis.[1] To our knowledge fewer than ten cases of lipoleiomyoma have been reported in the imaging literature [23] Sometimes the lipomatous component consist of predominantly brown fat and the tumors is termed a lipomyofibroma [4]

Identification of fat within a uterine mass is a key to the diagnosis. USG, CT and MRI are the essential methods of diagnosing uterine lipomatous tumor. On USG lipoleiomyoma typically appears as a hyperechoic mass with a hypoechoic rim which may represent a fatty tissue with surrounding healthy myometrium [5]. Presence of fatty component within a uterine mass on CT is considered as diagnostic of lipoleiomyoma. CT is specific of lipoleiomyoma when it shows one or several forms of negative attenuation within the tumor [24] On MRI these fatty areas shows high signal intensity on T1 and decreased signals on T2 weighted images.[23] If T2 weighted images are performed by using fast spin echo sequences, signal intensity of fat mass will remain high. However it is worth mentioning that on MRI, areas of hemorrhagic degeneration in lipoleiomyoma may equally display either high or low signal intensity on both T1 and T2W fast spin echo images mimicking fatty degeneration. Also cystic degeneration in uterine lipoleiomyoma may exhibit high signal intensity on T1 and T2 weighted spin echo images, if there is high content

in protein and cholesterol. In these cases the presence of chemical shift artifact and/or loss of signal intensity on T1 weighted sequence with suppression can confirm the presence fat within tumor.

In our case USG was the first imaging performed for post menopausal vaginal bleeding which revealed presence of an echogenic mass which on CT and MRI turned out to be a fatty component within the myometrium which is diagnostic of the entity. MRI is considered to be the best imaging modality with multiplanar compatibility and high contrast resolution. In addition MRI may also contribute in establishing the myometrial origin of the mass by

demonstrating uterine serosa or myometrium [6]

References

1. Dallacha A, DiMarioA, FagliaG, Fucheri E: Lipoleiomyoma of uterus. *Pathologica* 1997; 89:737-741.
2. Tsushima Y, Kita T, YamamoteK , Uterine lipoleiomyoma: MRI, CT and ultrasonographic findings. *Br J Radiol*; 1997; 70:1068-70
3. Ishigami K, Yoshimotsu K, Honda H, Kaneka K, Kuroiwa T, Iric H etal. Uterine lipoleiomyoma: MRI appearances. *Abdominal imaging* 1998; 23:214-6.
4. Chen KT. Uterine lipoleiomyoma. *Inlt J Gynuol. Pathol* 1999; 18:96-7.
5. Dodel GD III, Budzik RF. Lipomatous uterine tumours: diagnosis by ultrasound, CT and MR. *J Comput Assist Tomogr* 1990; 14:629-32.
6. Lan L U Thorni RF. Uterine lipoma: Advantage of MRI over ultrasound. *British Journal of Radiology* 2005; 78:72-74.

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