

CASE REPORT

Uterine Lipoleiomyoma: Ultrasound and Computed Tomography Findings

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ABSTRACT

Uterine lipoleiomyoma is a rare benign tumour, with only 8 cases reported in the radiological literature to date. It is easily misdiagnosed as an ovarian teratoma on radiological imaging studies. This report is of a patient with uterine lipoleiomyoma as an incidental finding. Preoperative diagnosis of uterine lipoleiomyoma is possible with the use of ultrasound and computed tomography scanning of the abdomen and pelvis.

Key words: Computed tomography, Leiomyoma, Ultrasonography, Uterine neoplasms

INTRODUCTION

Uterine lipoleiomyoma is a rare benign tumour, with a reported incidence of 0.03% to 0.20%.¹ To date, only 8 cases have been reported in the radiological literature.^{1,2} Most reported cases of lipoleiomyoma have been retrospectively diagnosed after surgery, with some being preoperatively misdiagnosed as ovarian teratomas. This report is of a patient with an incidental finding of a ‘fat’ containing mass inside the pelvis. A preoperative diagnosis of lipoleiomyoma was made using radiological imaging by demonstrating the origin of the mass within the uterus.

CASE REPORT

A 67-year-old woman receiving long-term warfarin therapy for chronic rheumatic heart disease presented with multiple bruises and acute abdominal pain. Computed tomography scan showed a haematoma at the level of the right rectus abdominis muscles (Figure 1), corresponding to the site of tenderness in the lower abdomen. There was an incidental finding of a large, homogeneously hypodense mass inside the pelvis, consistent with a fat-containing lesion. The diagnosis made was of right ovarian teratoma. Transvaginal ultrasound examination subsequently showed a 5.5 cm homogeneously hyperechoic mass over the right lateral wall of

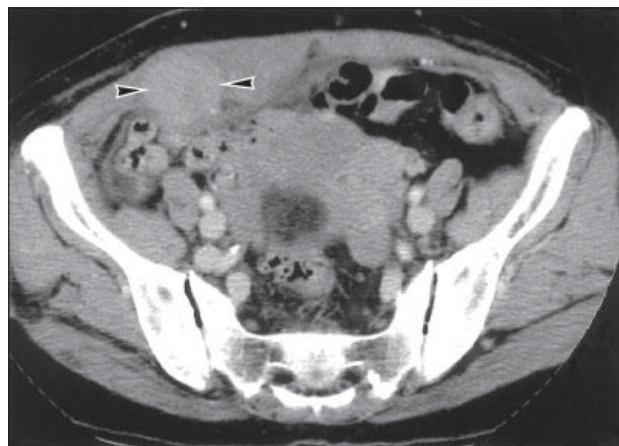


Figure 1. Computed tomography scan of the abdomen shows a haematoma at the level of the right rectus abdominis muscle (arrowheads).

the uterus, corresponding to the mass seen on CT scan. The lesion was surrounded by a hypoechoic rim, suggesting an intramural mass (Figure 2). Multiple small, hypoechoic intramural uterine fibroids, up to 2 cm in size, were also present. On review, the CT findings of a large ‘fat’ containing mass located inside the uterus and surrounded by a thin rim of myometrium were consistent with a diagnosis of uterine lipoleiomyoma (Figure 3). In view of the patient’s cardiac problems, hysterectomy was not considered. Management consisted of continued follow-up.

DISCUSSION

Uterine lipoleiomyoma is a type of uterine leiomyoma. It is composed of a mixture of mature adipose tissue and smooth muscle cells, with a spectrum varying from

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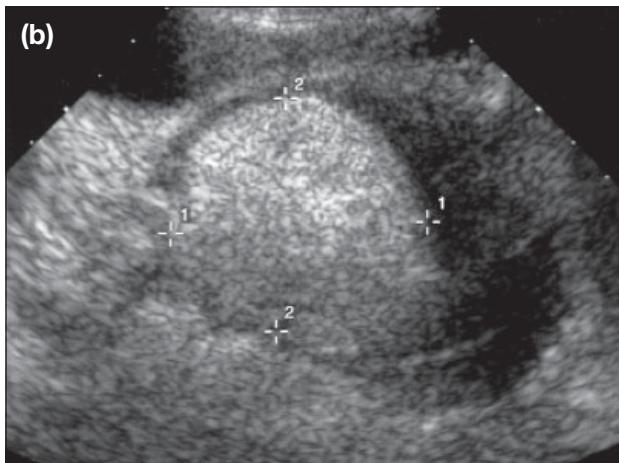
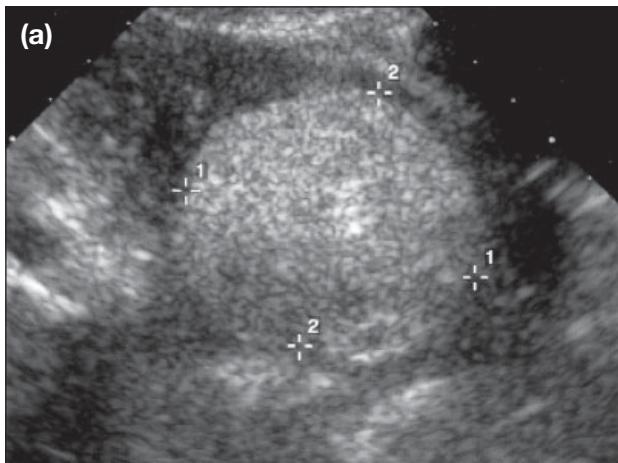


Figure 2. Transvaginal ultrasound examination of the uterus shows a hyperechoic mass surrounded by the hypoechoic rim of the myometrium on both (a) longitudinal; and (b) transverse scans.

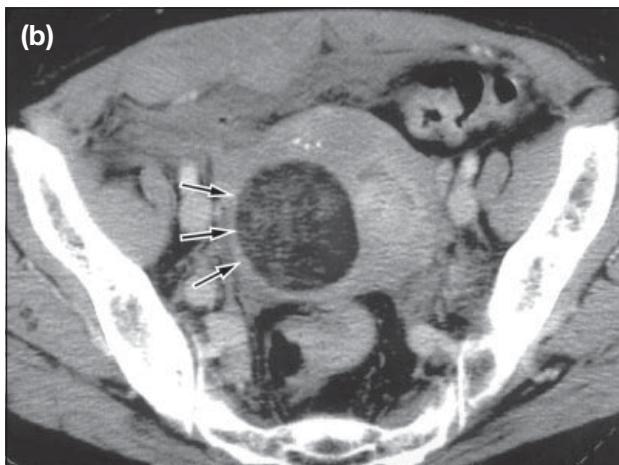
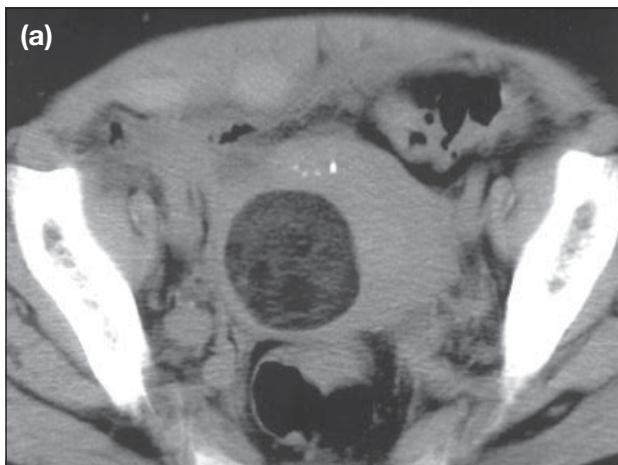


Figure 3. Pre- and post-contrast computed tomography scan of the pelvis shows a 'fat' density mass in the right side of the uterus, surrounded by a layer of myometrium (arrows). The findings are diagnostic of uterine lipoleiomyoma.

pure uterine lipoma, to lipoleiomyoma or fibromyolipoma depending on the constituents of the mass. The latter two are the most commonly occurring variants.³ The pathogenesis of this benign tumour is unknown, with explanations including a tumour arising from misplaced embryonic remains of lipoblasts, perivascular extension of peritoneal or retroperitoneal fat, neometaplasia of the lipomatous component derived from immature perivascular cells, lipocytic differentiation of primitive connective or mesenchymal tissue, or fatty metamorphosis of smooth muscle cells or connective tissue into adipose cells. This last theory is the most widely accepted mechanism underlying the development of lipoleiomyoma.¹

Uterine lipoleiomyomas are typically found in post-menopausal women. There is a high incidence of concomitant uterine leiomyoma.^{3,4} The clinical presentation of lipoleiomyoma is similar to that of leiomyoma. Most

patients are asymptomatic, although some patients present with urinary frequency, constipation, pelvic discomfort, and uterine bleeding. These symptoms are probably related to the size of the lesion.

Lipoleiomyomas are most often found in the uterine corpus, and are usually intramural, although submucosal and subserosal uterine lipoleiomyomas have also been reported.^{2,5} The differential diagnosis includes benign cystic ovarian teratoma, malignant degeneration of a benign cystic ovarian teratoma, non-teratomatous lipomatous ovarian tumour, benign pelvic lipoma, liposarcoma, extradrenal myelolipoma in a pelvic location, lipoblastic lymphadenopathy, and retroperitoneal cystic hamartoma.⁶

The radiological diagnosis of exophytic or pedunculated lipoleiomyomas can be difficult because of their similarity to ovarian teratomas. Magnetic resonance imaging,

with its multiplanar capabilities, is the most useful imaging modality for such differentiation, by demonstrating uterine origin.^{3,7} Malignant changes in uterine lipoleiomyomas are extremely rare, but have been reported.^{8,9}

As illustrated in this case, lipoleiomyoma should be considered in the differential diagnosis of a pelvic lipomatous mass. The mass can be diagnosed on ultrasound examination and CT scan, but can easily be misdiagnosed as an ovarian teratoma, which requires surgical removal. The lipomatous component of the lipoleiomyoma appears hyperechoic, with a hypoechoic ring representing a layer of myometrium occasionally seen surrounding the lipomatous mass. On CT scan, the lipomatous component of the tumour mass can be confirmed and the location of the lipomatous tumour is more clearly shown.

CONCLUSION

Lipoleiomyoma is a rare benign uterine tumour. When there is a high index of suspicion, preoperative diagnosis is possible using ultrasonography and CT scanning of the abdomen and pelvis. The use of MRI is particularly helpful when the lipomatous tumour is

pedunculated or difficult to differentiate from other ovarian lipomatous masses.

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