

Pure Uterine Lipoma-A Review of Two Cases

Case report

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Abstract

Lipomatous uterine tumours are not commonly encountered, and pure uterine lipomas are a rare entity, as compared to their mixed counterpart lipoleiomyomas, with a low incidence of reported cases. [1] Their reported incidence is 0.03-0.2%. [2] Most reported cases have been of mixed type, consisting of admixture with smooth muscle or fibrous tissue. [3] Clinical diagnosis is rarely made, and the diagnosis is usually confirmed on pathological examination.

We report two cases, one of a 68-year-old and one of a 55-year-old, both postmenopausal females, who presented with a bulky uterus diagnosed as fibroid uterus on ultrasonography. Upon hysterectomy, the specimens were sent for histopathological examination which revealed well circumscribed lesions in the myometrium composed of sheets and lobules of mature adipose tissue, with thin fibrous septae. The endometrium lining was pushed to the periphery. A diagnosis of uterine lipoma/lipomatosis was made.

The histogenesis of pure uterine lipomas are debatable, and a possible theory involves fatty metaplasia of smooth muscle cells of the myometrium. Awareness about this entity is important, as an accurate diagnosis can reduce the need for hysterectomy in these patients, owing to the benign nature of these lesions, and conservative management can be done.

Keywords: Uterine Lipoma; Benign; Lipomatosis; Lipoleiomyoma

Introduction

Lipomatous tumours of the uterus are rare, benign neoplasms, with a low incidence rate varying from 0.3 to 0.12% [4]. These tumours are commonly encountered in postmenopausal women from 50 to 70 years of age, and they may be associated with uterine fibroids. [4]

The clinical or macroscopic presentation may mimic a soft tissue sarcoma, leading to a diagnostic dilemma. They may mimic uterine leiomyoma, except for their occurrence in postmenopausal women [5]. Uterine lipomas are generally uterine and intramural in location [6]. Most are asymptomatic; however, some present with vaginal bleeding, lower abdominal distension and pain. [7]

Lipomatous tumours are usually classified into pure and mixed types [7] with mixed types being more commonly encountered. The histogenetic theories of these uncommon lesions are still debatable, and a possible theory involves fatty metaplasia of smooth muscle cells of the myometrium. [7]

We report two cases of uterine lipomas, both in post-menopausal women, presenting with dysfunctional uterine bleeding.

Case Report

Case 1

A 68-year-old post-menopausal woman presented with dysfunctional uterine bleeding and pain; No history of previous malignancies or hormonal therapy. Ultrasonography showed a large uterine mass with endometrial thickness of 4 mm. Adnexa were normal. The patient underwent total abdominal hysterectomy.

Pathological findings

Gross examination revealed a bosselated uterus measuring 15 x 11 x 11 cm. Uterine cavity was distorted due to a large intramural mass measuring 10 cm in diameter. Cut section was yellow, homogenous, greasy (Figure 1a). Another intramural mass was measuring 5 x 4 x 4 cm; cut section was yellow white.

Microscopically larger tumour was composed of mature adipocytes arranged in lobules separated by thin fibrovascular septae and surrounded by myometrium (Figure 01b; H, E 100x). There was no nuclear atypia, increase in mitosis or necrosis. Lipoblasts were not seen. The other tumour showed mature adipocytes arranged in lobules with varying proportion of intermixed fascicles and bundles of smooth muscle fibres (Figure 01c; H, E 100x). Endometrium showed senile cystic atrophy (Figure 01d; H, E 40x). A diagnosis of pure uterine lipoma and lipoleiomyoma was proposed.

Immunohistochemistry (IHC) revealed S-100 positive adipocytes in the larger tumour while SMA and Desmin positive for rim of myometrium. The smaller tumour showed SMA positive smooth muscle cells. This confirmed the diagnosis of a pure lipoma and a lipoleiomyoma.

Case 2

A 55-year-old post-menopausal woman presented with pain in lower abdomen. On sonography a large uterine fibroid was noted, with unremarkable endometrium and adnexa. Total abdominal hysterectomy was done.

Pathological findings

Grossly uterus was bosselated, measuring 12 x 11 x 8 cm with two intramural masses measuring 4 x 3 x 3 cm and 3 x 3 x 2 cm. Cut section of the larger mass was yellow, homogenous, greasy (Figure 02a). Smaller mass was separately received, cut section being grey-white, whorled.

Microscopically larger mass was well circumscribed encapsulated composed of mature adipocytes arranged in lobules separated by thin fibrovascular septae surrounded by rim of myometrium (Figure 02b; H, E 100x) (Figure 02c; H, E 100x). There was no nuclear atypia,



Figure 2: Figure 02a: A yellow nodular mass with well circumscribed borders and a greasy cut surface. Figure 02b, 02c: Low power views of Mature adipocytes separated by fibrovascular septae.

increase in mitosis or necrosis. Lipoblasts were not seen. The smaller mass showed leiomyoma. A diagnosis of pure uterine lipoma and leiomyoma were proposed.

Immunohistochemistry (IHC) on the larger mass revealed adipocytes positive for S-100 while the surrounding smooth muscle cells were positive for SMA and Desmin. The smaller mass showed positivity for SMA and Desmin.

This confirmed the diagnosis of a pure lipoma co-existent with a leiomyoma.

Discussion

Lipomas are the most common soft tissue tumours in the body; however, lipomas of the uterus are rare, with a low reported incidence of 0.03-0.2%. [2]. Uterine lipomas fall under the umbrella of uterine fatty tumours (UFT) [10] which are a range of benign tumours that may be composed entirely of adipocytes or may be intermixed with connective tissue or smooth muscle. Due to the range of histopathological possibilities based on the proportion of fat, smooth muscle and fibrous tissues, UFTs encompass a spectrum that includes pure lipomas, lipoleiomyomas and fibrolipomas [10], as smooth muscle cells and fibroblasts are admixed with mature adipocytes within the mass [1,4]. The exact incidence rate of these tumours is unknown, as being benign causes them to be frequently undiagnosed [4].

According to Willen R et al., a pure lipoma should be diagnosed only if smooth muscle cells are present at the periphery [2]. They usually occur in asymptomatic, perimenopausal or postmenopausal women and may be associated with leiomyomas, whose clinical history could be indistinguishable [4,5,8].

Preoperative diagnosis of uterine lipomas is generally challenging [6]. On ultrasound and CT, one may confuse with a fatty degeneration of a leiomyoma or ovarian tumour, if the size is very large, and an MRI provides more specific, but not always accurate, findings with lipomas.

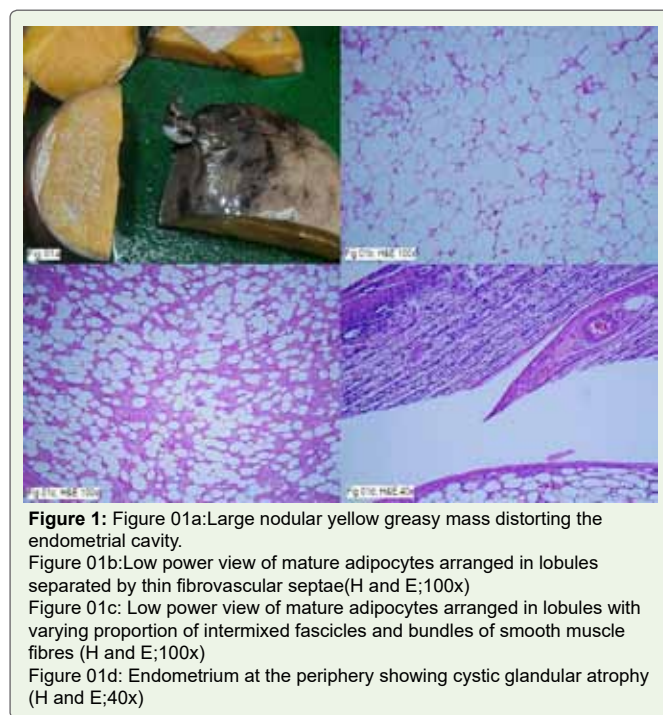


Figure 1: Figure 01a: Large nodular yellow greasy mass distorting the endometrial cavity. Figure 01b: Low power view of mature adipocytes arranged in lobules separated by thin fibrovascular septae (H and E; 100x) Figure 01c: Low power view of mature adipocytes arranged in lobules with varying proportion of intermixed fascicles and bundles of smooth muscle fibres (H and E; 100x) Figure 01d: Endometrium at the periphery showing cystic glandular atrophy (H and E; 40x)

In our cases, only ultrasound was done which diagnosed both cases as fibroid uteri. This reinforces the value of histopathology in diagnosing pure lipomas of the uterus.

The coexistence of both pure uterine lipomas and uterine lipoleiomyomas has rarely been reported in literature. [4] To our knowledge, only two cases have been recently reported in literature [4]. In one of these, the authors presented a case of association of a pure uterine lipoma, a leiomyoma and endometrial cancer as a tumour triplicity, which may have contributed to the pathogenesis of mesenchymal tumours in this location [11].

The histogenesis of these tumours is still debated. As fat tissue is not native to the uterus, various theories of histogenesis have been proposed. These include misplaced embryonic fat cells, metaplasia of the muscle or connective tissue cells into the fat cells, adipocytic differentiation of primitive connective tissue cells, proliferation of perivascular fat cells accompanying the blood vessels into the uterus, inclusion of the fat cells into the uterine wall during surgery or fatty infiltration or degeneration of the connective tissue. [6]

Some researchers have emphasized that a hyperestrogenic state in metabolic disorders such as hyperlipidaemia, hypothyroidism, diabetes mellitus, postmenopausal lipid metabolism changes and toxemia during pregnancy may contribute to its development. [9]

Fatty metaplasia of the connective tissue or the smooth muscle cells seems to be the most plausible histogenetic theory involved in the development of uterine lipomas [4].

Since leiomyomas and lipoleiomyomas were coexistent with the uterine lipoma in our cases, we may hypothesise that fatty metamorphosis of smooth muscle cells of leiomyomas favours the development of the uterine lipoma.

In our cases, the histopathological examination revealed that the tumour consisted exclusively of mature adipose tissue, peripherally delimited by smooth muscle cells, which rule out the diagnosis of a mixed lipoma and suggest a pure lipoma. We carefully analysed the tumour, ensuring the absence of lipoblasts, nuclear atypia and brisk or atypical mitosis. With this we concluded the diagnosis as pure lipoma, excluding possibility of a liposarcoma or other malignancies.

Follow-up of our patient revealed no medical complaints till date.

In conclusion, pure uterine lipoma is very rare benign uterine tumour which presents with clinical signs like that of leiomyoma, and may be missed on radiological examination or confused with leiomyomas. Treatment of the tumour is hysterectomy, if the patient has excessive pain or vaginal bleeding. Our report throws light upon this rare entity, its co-existence with lipoleiomyomas and leiomyomas, and aims to increase awareness about its existence to avoid a delay in the diagnosis and the accompanying morbidity, and if suspected pre-operatively in asymptomatic patients, to avoid major surgery in older patients. It also makes the reader aware that such tumours could be an incidental finding on hysterectomy specimens.

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