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Case Report

A rare variant of uterine leiomyoma-lipoleiomyoma

Lipsy Goyal*, Divya Phool, Chanchal Jain

Department of Obstetrics and Gynecology, Mata Kaushalya Government Hospital, Patiala, Punjab, India

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***Correspondence:**
Dr. Lipsy Goyal,
E-mail: lipsy_15@yahoo.com

ABSTRACT

Lipoleiomyoma is a benign variant of uterine leiomyoma characterized by admixture of fat cells and smooth muscle cells. This entity can coexist with other malignancies in uterus, ovaries and fallopian tubes. Lipoleiomyoma is typically found in post-menopausal women with incidence of 0.03-0.20%. The 58 years old postmenopausal women presented to gynaecology outpatient department (OPD) with complaints of chronic lower abdominal pain. Her clinical examination and blood investigations were normal but her imaging showed a large heterogenous solid mass at uterine fundus. She underwent TAH and BSO. Diagnosis of lipoleiomyoma was confirmed on histopathological examination. Left ovary showed serous cystadenomatous cystic lesion and left fallopian paratubal cyst. Lipoleiomyoma is rare entity with excellent prognosis when asymptomatic so its awareness is important to avoid unnecessary surgeries.

Keywords: Uterine leiomyoma, Lipoleiomyoma, Post menopausal

INTRODUCTION

Uterine leiomyoma has been reported to be the most prevalent benign neoplastic pelvic mass. It occurs due to hyperproliferation of uterine smooth muscles due to continuous estrogen stimulation. Thus, its growth and presence peaks during reproductive years and declines after menopause.[1]

Uterine lipoleiomyoma is a rare entity of mesenchymal benign uterine neoplasm. This benign variant is characterized by an admixture of fat cells as well as uterine smooth muscle cells on histological examination.[2]

Uterine lipoleiomyoma is also called as fibrolipoleiomyoma or benign mixed mesodermal tumour or uterine lipomatous tumour.[3] The principal significance of these lesions in uterine wall is that, they may have a coexistent malignancy in uterus, ovaries, and fallopian tubes. These patients may have other metabolic disorders and abnormal estrogen status.[4] Lipoleiomyoma are typically found in postmenopausal patients with reported incidence of 0.03-0.20%.[5]

Clinically, majority are asymptomatic but patient may present with a palpable pelvis mass, abdominal pain, abnormal uterine bleeding and increased frequency of micturition.[2] Preoperative diagnosis is possible with ultrasound or computed tomography scanning of pelvis, but the condition may be misdiagnosed as an ovarian teratoma or any other uterine neoplasm.[6,7]

It is essential to diagnose this disease early to exclude malignant neoplasms and implement appropriate treatment strategies.

This report presents a case of a 58-year-old postmenopausal grand multiparous woman diagnosed with lipoleiomyoma.

CASE REPORT

A 58-year-old postmenopausal grand multiparous woman presented to gynecology outpatient unit with complaints of lower abdominal pain for 6 months. The patient's last menstrual period was 11 years prior to presentation. There

was no significant medical history, no previous history of any surgeries or any other significant family history.

On clinical examination, vital signs were normal and abdomen was soft with no palpable mass.

Routine hematological investigations were within normal limits. Her PAP smear and endometrial biopsy were obtained and results illustrated the absence of malignant cells. Abdominal and pelvis ultrasonography (USG) was performed that revealed large heterogenous solid mass noted in fundus of uterus and right lateral wall measuring 6.7×4.9×4.5 cm.

A diagnosis of leiomyoma in uterine corpus with degenerative changes was made. Her further workup by Magnetic resonance imaging (MRI) showed a large T2/STIR heterogeneously hypointense lesion measuring 5.2×5.1×5 cm in fundal region compressing or distorting endometrial lining. It showed few T1/T2 hyperintense foci within, consistent with the diagnosis of lipoleiomyoma (Figure 1).

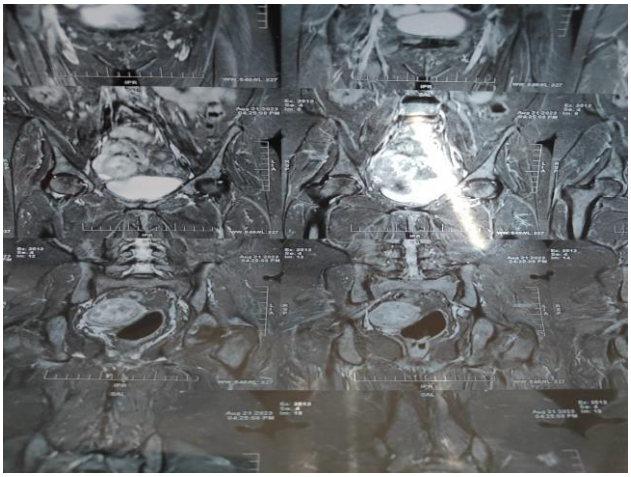

Figure 1: MRI image of large heterogeneously hypointense lesion in fundal region with few hyperintense foci within it.

The patient was counseled regarding the available management options and she underwent total abdominal hysterectomy with bilateral salpingoopherectomy (TAH+BSO) and tissue was sent for histopathological testing (Figure 2).

Post operatively, the pathology report revealed a tan white polypoidal growth measuring 5×4×3.5 cm seen in endometrial cavity and compressing the endometrial cavity. Left ovarian cyst was observed.

H and E staining of polyploidal tissue showed fibrous stroma and benign tumour composed of interlacing fascicles of smooth muscle bundles. They had cigar shaped nuclei with blunt ends and ill defined eosinophilic cytoplasm. There were seen intermixed mature adipocytes, dilated thick walled vessles with mild inflammatory infiltrate comprising of lymphocytes in stroma. However no increased cellularity, atypia, necrosis and abnormal mitotic activity were noted.

Left ovary showed serous cystadenomatous cystic lesion and left fallopian tube showed paratubal cyst. Right ovary and fallopian tube were unremarkable. Mentioned microscopic findings were highly suggestive of rare variant lipoleiomyoma. Patient was discharged from the hospital without any complications three days post TAH-BSO with scheduled OPD follow-up after four weeks.

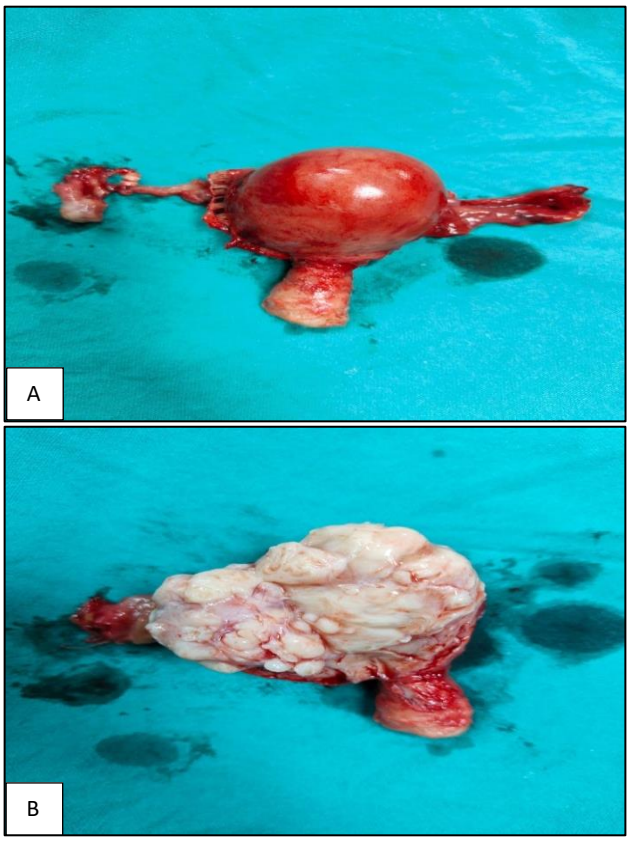

Figure 2 (A and B): Gross specimen and cut section of uterus showing gross fat deposition.

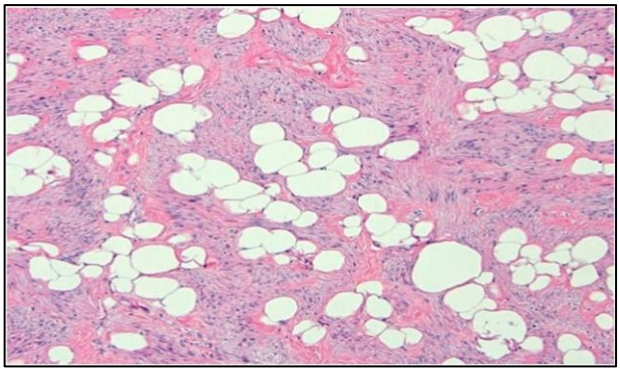

Figure 3: Hematoxylin and eosin stain show a mixture of mature adipose tissue and proliferating smooth muscle and fibrosis. There is no cytologic atypia, increased mitotic activity, or necrosis.

DISCUSSION

Lipoleiomyoma is regarded as true neoplasia but previously it was called as fatty metamorphosis, lipomatous degeneration, hamartoma and adipose metaplasia.

Many theories have been proposed which include: Fatty degeneration of connective tissue, lipoblastic differential of misplaced embryonic fat cells. metaplastic changes of connective tissue or smooth muscle into fat cells, pluripotent cell migration along the uterine nerve and vessels.[8]

In lipoleiomyoma, fat cells are integral part of tumour distributed evenly in the lesion.[9] There are three types of lipomatous tumours of the uterus: Pure lipomas-composed of encapsulated mature fat cells. Lipoleiomyoma/ angiomyolipoma/ fibromyolipoma-composed of mature adipose tissue, smooth muscles, fibrous tissue and other connective tissue elements. Liposarcoma-extremely rare and malignant neoplasm.[10]

Postmenopausal women have lipid metabolic changes and increased plasma lipid levels incase patient is obese which could lead to increased likelihood of development of lipoleiomyoma.

Multiple reports in literature of lipoleiomyoma coexists with gynaecological malignancies. Oh et al included six cases of lipoleiomyomas with 1 patient having coexistent stage 1A1 cervical cancer.[11] Akbulut et al reported twelve gynecological malignancies among the seventy patients with lipoleiomyomas.

Out of seventy patients in study done by Akbulut et al eight patients had diabetes mellitus, six had hypothyroidism, as well as fifty-three of the seventy had other lesions that are associated with hyperestrogenic states, including adenomyosis, endometriosis, endometrial hyperplasia, polyps and gynecologic carcinomas.[12]

Karaman et al reported a lipoleiomyoma in a single patient with a ten-year history of diabetes mellitus and hypercholesterolemia, as well as Sharma et al reported ten lipoleiomyomas with 2 having diabetes mellitus, two with hypothyroidism and one with high triglyceride levels.[13,14]

Mignogna et al reported immunoreactivity of fat cells with vimentin, desmin, and SMA which support the hypothesis of a direct transformation of smooth muscle cell into fat cells. Thus, IHC markers can play an integral role in in understanding complex histogenesis of lipoleiomyoma. IHC testing was not done for our case.[15]

CONCLUSION

Lipoleiomyoma is rare and commonly occurs in uterine corpus. Although MRI can be a useful modality for diagnosing preoperatively but most of the cases are diagnosed postoperatively on histopathological examination. Awareness of lipoleiomyoma, its clinical presentation, and imaging features is important to avoid unnecessary surgeries as it has an excellent prognosis, especially when asymptomatic.

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