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A CASE REPORT ON MYOMETRIAL LIPOLEIOMYOMA

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ABSTRACT

Myometrial lipoleiomyoma is a rare, benign uterine tumor composed of smooth muscle and mature fat tissue, often seen in women over 40. Most cases are asymptomatic and found incidentally, but larger tumors may cause pelvic pain, abnormal bleeding, or pressure symptoms. Diagnosis relies on imaging like ultrasound or MRI, which shows fat-containing uterine masses, but definitive diagnosis is made by histopathology. Treatment is usually conservative if asymptomatic, while symptomatic or large tumors may require surgical removal. The prognosis is excellent, as the tumor is benign with no malignant potential. A 46-year-old woman with known fibroid uterus presented with constipation and urinary retention, previously requiring catheterization. She had regular menstrual cycles, was P2L2 with prior sterilization, and a history of hypothyroidism treated with thyroxine. On examination, she was stable, with a soft, non-tender abdomen and cervix pulled up and sterilized on the right. Laboratory results showed anemia, iron deficiency, and markedly elevated TSH levels. Ultrasound revealed a posterior myometrial lipoleiomyoma measuring 7.9 x 5.4 x 6.6 cm, confirmed by histopathology. She was initially managed medically, then underwent total abdominal hysterectomy with bilateral salpingo-oophorectomy. Postoperatively, she was stable and discharged with antibiotics, analgesics, laxatives, vitamins, and topical mupirocin ointment.

KEYWORDS: Myometrial lipoleiomyoma, Uterine fibroid, Myometrial lesion, uterine leiomyoma.

INTRODUCTION

Myometrial lipoleiomyoma is a rare, benign uterine tumor that represents an uncommon histological variant of the more prevalent uterine leiomyoma, commonly known as a fibroid.[1] Whereas typical leiomyomas are composed entirely of interlacing bundles of smooth muscle cells, lipoleiomyomas are characterized by an unusual admixture of mature adipose (fat) tissue and smooth muscle elements. These tumors predominantly arise within the myometrium, the muscular middle layer of the uterus, though they can occasionally extend into the subserosal or submucosal regions.[2] Myometrial lipoleiomyomas are most frequently diagnosed in perimenopausal or postmenopausal women, with the peak incidence reported between the ages of 40 and 60 years. Their incidence in the general population is low, estimated to range between 0.03% and 0.2% in surgical series, making them an infrequently encountered entity in gynecological pathology.[3]

The precise pathogenesis of myometrial lipoleiomyomas remains a subject of ongoing research and debate. Several hypotheses have been proposed, including fatty metamorphosis of smooth muscle cells, pluripotent mesenchymal cell differentiation into adipocytes, or fatty infiltration and degeneration within a pre-existing leiomyoma.[5,6] Associations with metabolic disorders such as obesity, hyperlipidemia, diabetes mellitus, and estrogenic stimulation have also been suggested, although definitive causative links have yet to be firmly established.[7]

Clinically, myometrial lipoleiomyomas are often asymptomatic and discovered incidentally during imaging studies performed for unrelated gynecological complaints, routine pelvic examinations, or intraoperative assessments during procedures like hysterectomy or myomectomy.[8] When symptoms do occur, they tend to mirror those of typical uterine fibroids and may include abnormal uterine bleeding, pelvic pain, a sensation of pelvic pressure, urinary frequency due to bladder compression, constipation from bowel pressure, or the presence of a palpable abdominal mass in larger tumors.[9]

Radiological evaluation plays an essential role in the detection and preliminary characterization of myometrial lipoleiomyomas. Ultrasound may reveal a well-circumscribed mass with areas of increased echogenicity corresponding to fat. Computed tomography (CT)

and magnetic resonance imaging (MRI) are particularly helpful in demonstrating fat density or signal intensity within the lesion, aiding in differentiation from other uterine or pelvic masses.[10,11] However, definitive diagnosis is established through histopathological examination, which reveals a benign lesion composed of smooth muscle cells interspersed with mature adipocytes, without evidence of cytologic atypia, necrosis, or significant mitotic activity.[12,13] Immunohistochemical staining further confirms the smooth muscle nature of the non-fatty component, typically positive for markers such as smooth muscle actin (SMA) and desmin.[15,16]

Despite their benign nature and excellent prognosis, accurate recognition of myometrial lipoleiomyomas is crucial, particularly to distinguish them from other fat-containing pelvic tumors.[17] such as lipomas, liposarcomas, and teratomas, which may have significantly different clinical implications and management strategies. Management of myometrial lipoleiomyomas is largely conservative in asymptomatic cases, with surgical intervention reserved for symptomatic tumors, rapid growth, or diagnostic uncertainty.[18]

CASE REPORT

A 46-year-old female patient was admitted under gynaecology department with known complaints of fibroid uterus with constipation, urinary retention and went to another hospital drained urine. Her has regular menstrual cycle of 30 days, normal flow with no pain. She is P2L2, 2NVD, LSB- 18year and sterilization done. She has medical history of hypothyroidism and was taking T. THYROXINE 25mcg 1-0-0. At the time of admission, the vitals were normal. On physical examination, she was found to be conscious, oriented, S1S2 heard, Bilateral air entry normal, posterioanterior abdomen was soft, non-tender. Her cervix pulled up and sterilized right side. Her laboratory parameter like haemoglobin (10.1 g/dL), transferrin saturation (4%), ferritin (5.09ng/mL), iron (18micrgram/dL) were declined and TSH (31.83uIU/ml), TIBC (457microgram/dL) were elevated.

Table 1: Laboratory values of the patient.

PARAMETERS	PATIENT VALUE	NORMAL VALUE
Haemoglobin	10.1 g/dL	12-15g/dL
Transferrin Saturation	4%	15-50%
Iron	18microgram/dL	50-170micrgram/dL
Ferritin	5.09ng/mL	13-150ng/ml
TSH	31.83uIU/ml	0.5-5Uiu/ml
TIBC	475microgram/dL	240-450ng/ml

Her Pap smear shown negative for intraepithelial lesions or malignancy. USG abdomen and pelvis revealed posterior myometrial lipoleiomyoma, myometrium shows heterogenous lesion measuring 7.9 x 5.4 x 6.6 cm. It was confirmed by histopathology report. The condition was treated with T. FOLIC ACID 5mg OD, T. THYROXINE 25mcg OD, INJ. CEFOPERAZONE + SULBACTAM 1.5gm IV BD, INJ. PANTOPRAZOLE 40mg BD, INJ. PARACETAMOL 1 gm IV Q8H, SYP. LACTULOSE 15ml P/O HS and multivitamins. She was undergone total abdominal hysterectomy + bilateral salphingo-oopherectomy. Her condition was stable and was discharged with T. ORNIDAZOLE + OFLOXACIN 1-0-1 X 3 days, T. PANTOPRAZOLE 40mg BD X 3 days, T. TRYPSIN + CHYMOTRYPSIN 1-1-1 X 3 days, T. ACECLOFENAC + PARACETAMOL 1-0-1 X 2 days, T. VITAMIN B COMPLEX 0-0-1 X 15 days. SYP. LACTULOSE 15ml HS X 15 days, T. CALCIUM + VITAMIN D3 0-1-0 X 30 days, T. FOLIC ACID 1-0-0 X 30 days, MUPIROCIN OINTMENT L/A.

DISCUSSION

Myometrial lipoleiomyoma, though rare, has garnered increasing interest in the gynecologic literature due to its unique histopathological features and occasional diagnostic challenges. Several published case reports provide valuable insights into the clinical presentation, imaging characteristics, differential diagnoses, and management strategies for this benign uterine neoplasm.

In a report by Aung et al. (2004), a 50-year-old woman presented with abdominal distension and a palpable pelvic mass, ultimately diagnosed as a large uterine lipoleiomyoma measuring over 20 cm. The authors highlighted that despite its size, the tumor exhibited benign histological features and no evidence of malignancy. This case underscores that even large lipoleiomyomas may remain clinically benign, though their size can prompt surgical intervention due to pressure symptoms or diagnostic uncertainty (Aung et al., Arch Gynecol Obstet 2004).[19]

Similarly, Kucuk et al. (2011) reported a case in which a 56-year-old woman with obesity and diabetes mellitus presented with pelvic pain and abnormal bleeding. MRI played a pivotal role in suggesting the diagnosis preoperatively by demonstrating a mass with high signal intensity on T1-weighted images consistent with fat content (Kucuk et al., Diagn Interv Radiol 2011). This case supports the view that MRI can effectively distinguish lipoleiomyomas from other fat-containing pelvic tumors, aiding in surgical planning and avoiding overtreatment.[20]

Interestingly, Pandey et al. (2014) described a case of a 45-year-old woman whose uterine lipoleiomyoma was associated with endometrial hyperplasia (BMJ Case Reports 2014). This finding raises questions regarding a potential hormonal influence in the pathogenesis of these tumors, though causality remains unproven. Associations with metabolic disorders—including obesity, diabetes, and hyperlipidemia—have been repeatedly noted in case reports, suggesting a possible link between lipid metabolism and tumor development.[21]

A unique aspect of lipoleiomyomas is their potential to mimic malignant tumors on imaging due to fat content, as illustrated by Vellanki et al. (2012) who reported a lipoleiomyoma initially suspected to be an ovarian teratoma (J Obstet Gynaecol Res 2012). Such cases emphasize the importance of histopathological confirmation to avoid misdiagnosis and unnecessary radical surgery.[22]

Despite these diagnostic complexities, the prognosis of myometrial lipoleiomyoma remains excellent. Surgical excision is typically curative when performed, and recurrence is exceedingly rare. Most authors recommend conservative management in asymptomatic patients, reserving surgery for symptomatic relief or when imaging cannot conclusively exclude malignancy.

CONCLUSION

Myometrial lipoleiomyoma is an uncommon but benign uterine tumor characterized by the coexistence of smooth muscle cells and mature adipose tissue within the myometrium. Although its precise pathogenesis remains uncertain, associations with metabolic disorders and hormonal influences have been observed in various case reports. While most lipoleiomyomas are asymptomatic and discovered incidentally, larger lesions may produce symptoms similar to conventional fibroids, including pelvic pain, abnormal bleeding, or pressure effects on adjacent organs. Advances in imaging modalities, particularly MRI, have greatly aided preoperative identification of these tumors due to their distinctive fatty components. Nevertheless, definitive diagnosis relies on histopathological examination, which distinguishes lipoleiomyomas from other fat-containing pelvic masses, some of which may be malignant.

Management is generally conservative for asymptomatic patients, with surgical intervention reserved for those experiencing significant symptoms, rapid tumor growth, or when imaging findings raise concern for malignancy. Importantly, the prognosis for patients with

myometrial lipoleiomyoma is excellent, with no documented risk of malignant transformation. Awareness of this rare entity and its imaging and pathological features is crucial for gynecologists, radiologists, and pathologists to avoid misdiagnosis and unnecessary radical treatment. Ongoing reporting of cases will continue to enrich understanding of this fascinating benign tumor.

Lipoleiomyomas are rare, non-cancerous tumors that primarily affect women after menopause and share similarities with uterine fibroids. In cases where no symptoms are present, conservative observation may be appropriate. However, these growths can lead to symptoms such as abnormal vaginal bleeding, pelvic pain, and urinary or bowel incontinence, with hysterectomy being a definitive treatment option. Although imaging is essential for the initial assessment and to evaluate the potential for malignancy, a definitive diagnosis requires histopathological examination. These tumors may be linked to gynecologic cancers, metabolic syndromes, and, in rare cases, tumor-to-tumor metastasis. Therefore, a thorough clinical assessment and, when indicated, surgical intervention are important for comprehensive patient care.

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