

# Lipoleiomyoma: Uncommon in Common

Parvathi P.<sup>1</sup>, Sowmya S.<sup>2</sup>, Erli Amel Ivan<sup>3\*</sup>

<sup>1</sup>Post graduate, <sup>2</sup>Professor and Head of Department of Pathology, <sup>3</sup>Associate Professor, Department of Pathology  
Sri Manakula Vinayagar Medical College and Hospital, Kalitheerthalkuppam, Madagadipet, Puducherry- 605107 INDIA.

\*Corresponding Address:

[erlisuneeth@gmail.com](mailto:erlisuneeth@gmail.com)

## Research Article

**Abstract:** In spite of common occurrence of leiomyomas in uterus, lipoleiomyomas are found to be as uncommon variants of uterine leiomyoma. The incidence is variously reported as 0.03-0.2%. Here we are discussing three such cases in perimenopausal and postmenopausal women aged between forty five years to fifty years. The size of the lesions were varying from 2cms to 25 cms. Histologically, they were composed of variable amounts of smooth muscle, mature adipocytes, and fibrous tissue. We report these cases of lipoleiomyoma that arose in uterus in view of the rarity of this tumor and its interesting histogenesis.

**Keywords:** lipoleiomyoma, mature adipocytes, perimenopausal, smooth muscle.

## Introduction

Lipomatous uterine tumors are unusual benign neoplasms.<sup>[1,2]</sup> Histologically, these tumors comprise a spectrum including pure lipomas, lipoleiomyomas and fibrolipomas. Lipoleiomyoma is a very rare lesion of uterus occurring primarily in obese perimenopausal and postmenopausal patients. The tumor consists of long intersecting bundles of bland, smooth muscle cells admixed with nests of mature fat cells and fibrous tissue.<sup>[2-4]</sup> The signs and symptoms are similar to those caused by leiomyomas of the same size, such as palpable mass, excessive menstrual bleeding and pelvic pain. Most patient are asymptomatic.<sup>5</sup> We report here three cases of lipoleiomyoma that arose in the uterus of which one was associated with malignant ovarian tumor.

### Case 1: (HP 445/12)

A forty five year old multiparous woman complained of lower abdominal pain and difficulty in passing urine since two months. On examination abdominal mass upto 18 weeks felt in the midline. CT scan was taken. Intra operative findings revealed uterus, ovary and fallopian tubes were normal and a mass arising from anterior surface of uterus. Total abdominal hysterectomy with bilateral salphingo oophorectomy was done. We received uterus with cervix and bilateral adnexa for histopathological examination. On gross examination uterus with cervix measured 10cmsx6cmsx4cms with a separated large globular mass measuring 25cm in diameter. On cut section endometrium showed an sessile polyp filling the cavity arising from the fundus. Myometrium was unremarkable. Cut section of the

globular mass appeared grayish white whorled appearance with large areas of cystic and myxoid changes. Paraffin embedded sections were prepared from the tumor and stained with hematoxylin and eosin. Histopathology of the sections show benign smooth muscle cells arranged in an interlacing pattern admixed with mature adipocytes, hyalinization with extensive mucoid and myxoid changes seen. Adenomatous polyp was present in the endometrium. Cervix and bilateral adnexa were unremarkable.

### CASE 2: (HP 1891/12)

A forty four year old female came with pain abdomen. On examination uterus was enlarged upto 24 weeks size. Total abdominal hysterectomy with bilateral salphingo oophorectomy was done and the specimen received for histopathological examination. On gross examination uterus with cervix measured 16 cms x 10cms x 5cms. On cut section of uterus a well circumscribed grey white intramural fibroid measuring 13cmsx10cmsx5cms seen obliterating the endometrial cavity. Paraffin embedded sections were prepared from the tumor and stained with hematoxylin and eosin. Histopathological examination of intramural fibroid showed benign smooth muscle cells arranged in interlacing fascicles admixed with mature adipocytes. Cervix and bilateral adnexae appeared to be unremarkable.

### CASE 3: (HP 591/13)

A fifty year old post menopausal woman complained of pain during micturition and abdominal pain since one month. On examination a mass was present with size of 28 weeks irregularly enlarged and mobile. CT scan showed bilateral ovarian mass of size varying 11cms to 13 cms. Total abdominal hysterectomy with bilateral salphingo-oophorectomy was done and specimen received for histopathological examination. On gross examination uterus with cervix measured 10cmsx6cmsx3cms. Cut section shows intra mural grey white mass measuring 3cmsx3cms. Paraffin embedded sections were prepared from the tumor and stained with hematoxylin and eosin. Sections from myometrium shows benign tumor composed of smooth muscle cells interlacing with mature adipocytes. Bilateral ovary

showed features of endometrioid carcinoma. Bilateral fallopian tubes are free from tumor. Cervix and endometrium are unremarkable.



Figure 1: Bosselated external surface of tumor



Figure 2: Whorled appearance of the tumour with degenerative changes

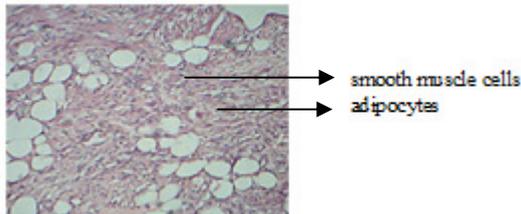


Figure 3: smooth muscle cells with adipocytes , H&E,20x

## Discussion and Conclusion

Lipoleiomyoma of uterine corpus is an uncommon pelvic tumor with an incidence varying from 0.03% to 0.2%.<sup>[6]</sup> Uterine lipoleiomyomas are most frequently found in the uterine corpus and are intramural as noticed in two of our cases.<sup>[7]</sup> They are composed histologically of variable amounts of smooth muscle cells and fibrous tissue. Fatty metamorphosis of smooth muscle cells of leiomyomas is the most likely cause for development of lipoleiomyomas.<sup>[8]</sup> Pathogenesis has been variously described to as mixed, benign, heterologous or mesenchymal neoplasm.<sup>[9]</sup> A number of various lipid metabolic disorders or other associated conditions, are associated with estrogen deficiency as occurs in peri or post-menopausal period. This possibly promote abnormal intracellular lipid storage.<sup>[1]</sup> The exact histogenesis has not been explained clearly. Nevertheless immunohistochemical studies indicated a complex histogenesis of lipoleiomyoma which might arise from immature mesenchymal cells or from transformation of smooth muscle cells into adipocytes.<sup>[10]</sup> It was also demonstrated that lipoleiomyoma may be associated with some metabolic disorder including hyperlipidemia, hypothyroidism and diabetes mellitus. This suggests that changes in lipid metabolism after menopausal transition

may play a role in the development of lipomatous change in leiomyomas.<sup>[1]</sup> This hypothesis is consistent with advanced age of most of the patients at time of diagnosis. By contrast with ordinary leiomyomas which tend to occur predominantly in women of reproductive age and regress after menopause, the lipoleiomyomas are frequently seen in older women.<sup>[11,12]</sup> Most patients are asymptomatic and are diagnosed incidentally. But among symptomatic women pelvic pain, palpable mass or abnormal bleeding are the most common symptoms similar to those caused by leiomyomas. Patients with symptoms usually undergo physical and pelvic examination followed by imaging modalities which reveal a solid pelvic mass.<sup>[11]</sup> Although some features in different imaging modalities may suggest the possible diagnosis of these tumors, but the precise diagnosis is based only on histopathologic examination.<sup>[6]</sup> The differential diagnosis of the lipomatous mass in the pelvis includes benign cystic teratoma, malignant degeneration of cystic teratoma, non-teratomatous lipomatous ovarian tumor, benign pelvic lipomas, liposarcomas and lipoblastic lymphadenopathy. Association of lipomatous uterine tumors and endometrial carcinomas with lipoleiomyosarcoma arising in uterine lipoleiomyomas has been reported.<sup>[13]</sup> The long-term follow up of patients with uterine lipoleiomyoma demonstrated that these lesions are benign without any recurrences or disease-related deaths if they are diagnosed as the unique pelvic pathology.<sup>[11]</sup> On the other hand, among patients with uterine lipoleiomyoma in two largest series, 18.8% of patients were reported to have associated gynecologic malignancies which may originate from uterus, cervix or ovaries.<sup>[11,12]</sup> One of our cases was operated for bilateral ovarian tumors and lipoleiomyoma was an incidental finding. Therefore, the patients with uterine lipoleiomyoma should be subjected to detailed clinical and pathological evaluation in order not to overlook a coexistent gynecologic malignancy.

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