UTERINE LIPOLEIOMYOMA- A RARE CASE REPORT WITH REVIEW OF LITERATURE

S. S. Devarmani, Viral B. Laheru

1. Professor, Department of Pathology, M. R. Medical College, Gulbarga, Karnataka, India.
2. Post Graduate, Department of Pathology, M. R. Medical College, Gulbarga, Karnataka, India.

CORRESPONDING AUTHOR
Dr. S. S. Devarmani,
Professor, Department of Pathology
M. R. Medical College, Sedam Road,
Gulbarga- 585 105, Karnataka, India
E-mail: drssdevarmani@gmail.com
Ph: 0091 9448046660

ABSTRACT: BACKGROUND: Uterine lipoleiomyoma is uncommon and rare entity. Although presumed to be benign, it has been inadequately studied. Adipose tissue is infrequently found within uterine leiomyoma with unknown histogenesis, thus it is unusual and rare finding in routine histopathology practice. **AIM:** The observation of a case of lipoleiomyoma stimulated us to ascertain the real incidence of this lesion which is commonly considered to be rare. **CASE SUMMARY:** 36 year old female presented with mass per abdomen associated abnormal uterine bleeding since 3 months. She underwent hysterectomy without any complication. Grossly, uterus was enlarged and cut surface revealed well circumscribed grey white mass measuring around 5x3x2 cms with yellowish area. Section showed features of adipose tissue embedded within leiomyoma. **DISCUSSION:** The presence of fatty tissue in the myometrium is anomalous; this alteration has been interpreted either as a lipomatous degeneration or as a metaplasia of smooth muscle cells or, still, as a real neoplasm, frequently associated with a leiomyoma, the so-called lipoleiomyoma. **CONCLUSION:** lipoleiomyoma of the uterus is very rare benign tumor with unknown histogenesis and only few cases have been reported so far, thus it prompts us to present.

KEY WORDS: uterus, leiomyoma, lipoma

INTRODUCTION: Uterine leiomyoma is the most common neoplasm of female genital tract, particularly during reproductive age period. Though secondary degenerative changes are common in existing leiomyoma but microscopic variants are less common.

Uterine neoplasms composed of an admixture of smooth muscle and adipose tissue are relatively uncommon and have been designated as lipoleiomyomas. Its incidence ranges from 0.3 to 2.1%.[1] According to considerable studies on lipoleiomyoma, incidence of this entity is 0.35% reported by Aung et al (2004)[2]; whereas X. Wang et al[3] found incidence of 2.1%.

Many variants which are the results of secondary changes have been described and detected in around 65% of cases. Lipoleiomyoma is an alteration that was previously described as fatty metamorphosis, lipomatous degeneration, adipose metaplasia etc. it is now regarded as true neoplasm.[4]

Traditionally, there are two hypotheses for the pathogenesis of uterine lipoleiomyoma. The first is that lipoleiomyoma arises from direct metaplasia of the smooth muscle cells of

leiomyoma. The second is that lipoleiomyoma arises from metaplasia of pleuripotent mesenchymal cells.

These tumors usually occur in postmenopausal women between 50 and 75 years of age. Many of these patients are asymptomatic, but in some patients symptoms are similar to those of uterine leiomyomas, such as pelvic discomfort, heaviness, and pressure, or vaginal bleeding.

CASE SUMMARY: 36 year old female presented with mass per abdomen since 1 week; associated with abnormal uterine bleeding, pain in abdomen.

Grossly, uterus was enlarged measuring 9x6x4 cms. Cut section revealed a well circumscribed, large intramural grey white mass measuring 5x3x2 cms, along with yellowish area. No areas of haemorrhage and necrosis were seen.

Microscopically, H&E section from intramural mass showed intersecting fascicle of benign looking smooth muscle cells admixed with mature adipose tissue (Fig-1A & B). There was no other histologic significant finding.

DISCUSSION: Lipomatous uterine tumors are rare benign uterine tumors, with only approximately 180 cases reported in the literature.[5] Lipoleiomyomas of the uterus are extremely rare; they show scattered islands of mature fat cells which may represent 'lipomatous' metaplasia of a pre-existing leiomyoma.

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. Actually, mean age of the patients in the largest two series so far was 55.4 years and almost 60% of patients were aged older than 50.[3]

The pathogenesis of the lesion remains unknown. Theory regarding metaplasia is so far the most widely accepted underlying mechanism of uterine lipoleiomyoma. A number of various metabolic disorders or other associated conditions, which are associated with estrogen deficiency as occurs in peri or post menopausal period, possibly promote abnormal intracellular storage of lipids.

Histologically, these tumours consist of smooth-muscle tissue admixed with varying amounts of mature adipose tissue, which do not show cytological atypia. The smooth-muscle cells are most commonly of the usual spindle-cell type, but rarely epithelioid cells are seen.
The fat cells are similarly mature adipocytes, and sometime immature fat cells and lipoblasts with marked nuclear atypia are seen. The adipocytes may be evenly distributed throughout the tumor or they may be concentrated in only focal areas.

The differential diagnosis of similar uterine tumors with adipose tissue and spindle cells include spindle cell lipoma, angiolipoma, angiomyolipoma, leiomyoma with fatty degeneration, atypical lipoma, and well-differentiated liposarcoma.[6]

Present case showed presence of mature adipose tissue and smooth muscle cells. There was no abundant mitotic activity. Absence of haemorrhage and necrosis noted. Cellular atypia and absence of lipoblasts ruled out liposarcoma. Other variants of lipoma were ruled out as there was no other differentiated component.

Immunocytochemical studies confirm the complex histogenesis of these tumors, which may arise from mesenchymal immature cells or from direct transformation of smooth muscle cells into adipocytes.

On the other hand, among patients with uterine lipoleiomyoma in two largest series, 18.8% of patients were reported to have associated gynaecologic malignancies which may

originate from uterus, cervix or ovaries[2]; therefore, the patients with uterine lipoleiomyoma should be subjected to detailed clinical and pathological evaluation in order not to overlook a coexistent gynaecologic malignancy.

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.

CONCLUSION: The patients with uterine lipoleiomyoma should be subjected to detailed clinical and pathological evaluation in order not to overlook a coexistent gynaecologic malignancy. Though imaging plays an important role in preoperative diagnosis and exact intrauterine location of a lipoleiomyoma, it is the final pathological examination that confirms the diagnosis.

REFERENCES:

1. Mehmet Coskun Salman, Zeliha Atak, Alp Usubutun, Kunter Yuce. Lipoleiomyoma of broad ligament mimicking ovarian cancer in postmenopausal patient: case report and literature review. J Gynecol Oncol 2010;21(1):62-4.
2. Aung T, Goto M, Nomoto M, Kitajima S, Douchi T, Yoshinaga M, et al. Uterine lipoleiomyoma: a histopathological review of 17 cases. Pathol Int 2004; 54: 751-8.
3. X. Wang et al. Uterine Lipoleiomyomas: A Clinicopathologic Study of 50 Cases. Int J Gynecol Pathol 2006;25(3):239-42.
4. Sudhamani S., Durgaprasad Agarwal, Ajita Pandit, VM Kiri. Lipoleiomyoma of uterus: A case report with review of literature. Indian J Pathol Microbiol 2010;53(4):840-41.
5. Chi-Yeung Chu et al. Diagnostic challenge of lipomatous uterine tumors in three patients. World J Radiol 2012 February 28; 4(2): 58-62.
6. F. Bolat, F Kayaselcuk, T Canpolat, S Erkanli, I Tuncer. Histogenesis of lipomatous component in uterine lipoleiomyomas. Turkish J Pathol 2007;23(2):82-6.

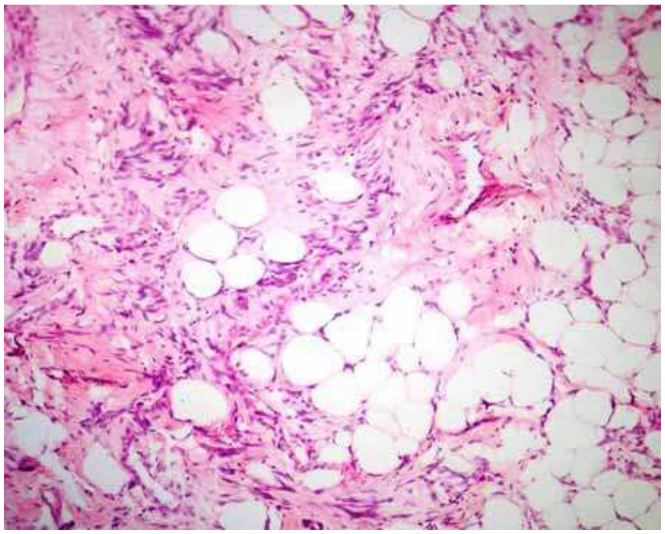

Figure 1A- section shows presence of mature adipose tissue in between the smooth muscle cell bundles (H&E, 40x).

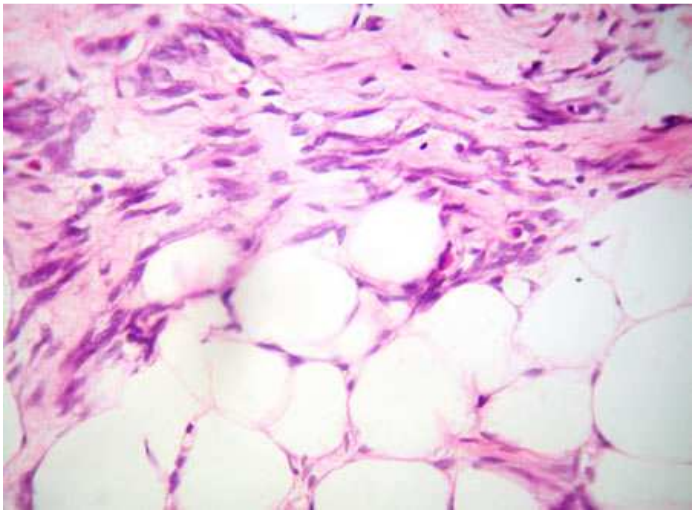

Figure 1B- section shows benign smooth muscle cells admixed with adipose tissue. There was no pleomorphism. There were no areas of necrosis or haemorrhages (H&E, 100x).