



## Lipoleiomyoma: A Rare Benign Tumour of the Uterus

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### ABSTRACT

*Lipoleiomyomas are rare benign tumours of the uterus. These tumours have high content of fatty tissue. Histologically, they show mature smooth muscle and mature adipocytes. These tumours are commonly reported in obese perimenopausal and post-menopausal women. Most tumours are asymptomatic, but can present with symptoms similar to that of leiomyomas. Though can be diagnosed by imaging studies, HPE report confirms the diagnosis. The management of lipoleiomyoma of the uterus is same as that of leiomyomas.*

**Keywords:** Benign tumours, uterus, lipoleiomyoma

### INTRODUCTION

Lipoleiomyomas are rare benign tumours of the uterus. By imaging studies the reported incidence varies from 0.03% to 0.2% of leiomyomas. Various theories have been proposed for the occurrence of these tumours. These tumours have a high content of fatty tissue. Histologically, they show mature smooth muscle and mature adipocytes. These tumours are commonly reported in obese perimenopausal and post-menopausal women. Most tumours are asymptomatic, but can present with symptoms similar to that of leiomyomas. Though can be diagnosed by imaging studies, HPE report confirms the diagnosis. The management of lipoleiomyoma of the uterus is same as that of leiomyomas.

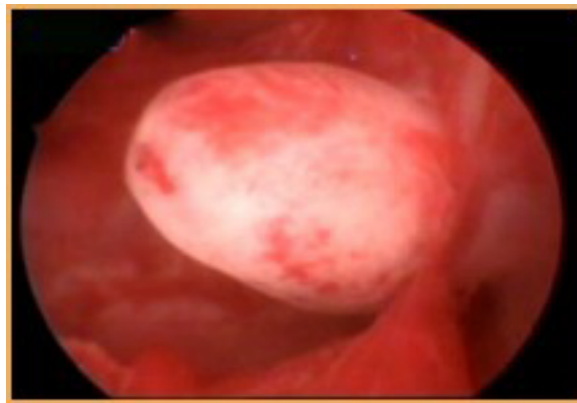
### CASE REPORT

Sixty-two years old, Mrs. V, a post-menopausal woman attended the Gynaec outpatient department with a complaint of three episodes of bleeding per vaginam in the past three months. She was married for 42 years, had six normal vaginal deliveries and 3 abortions. Her last childbirth was 30 years ago. She attained menopause 16 years ago and her menstrual history prior to the menopause was unremarkable. In the last 3 months she has had three episodes of bleeding which were heavy and were associated with clots and stopped spontaneously. There was no history of abnormal discharge per vaginam or post coital bleeding. Her bladder and bowel habits were normal. There was no history of loss of weight or loss of appetite. She was a known case of coronary artery disease and was on tablet clopidogrel, atorvastatin and nitroglycerine. There was no family history of malignancies.

On examination, her BMI was 32, vitals were normal, there was no pallor and supraclavicular node was not palpable. Her breast examination was normal. On abdominal examination, the abdomen was soft, no mass was palpable and there was no free fluid in the abdomen.

On per vaginal examination, the uterus was enlarged to 10 weeks size, and was mobile. There were no masses in the fornices and per rectal examination the pouch of douglas was free. Her haematological, biochemical parameters, X-ray and the electrocardiogram did not reveal any abnormalities. The ultrasonogram (USG) of the abdomen and the pelvis revealed a hyperechoic mass measuring 4.4 cm × 3.4 cm arising from the posterior wall of the body of the uterus, 50% of the mass being sub mucous. The endometrial thickness was 5 mm. The cervix measured 2.7 cm × 1.6 cm and appeared normal. The adnexa were normal. There was no free fluid in the abdomen and there were no pelvic or para-aortic node enlargement. The USG impression was partly sub-mucous myoma of the uterus.

A diagnosis of sub-mucous fibroid leading to post-menopausal bleeding was made and she was taken up for diagnostic hysteroscopy and curettage. Hysteroscopy showed a very smooth mass arising from the left lateral wall of the uterus projecting into the cavity (Figure 1).



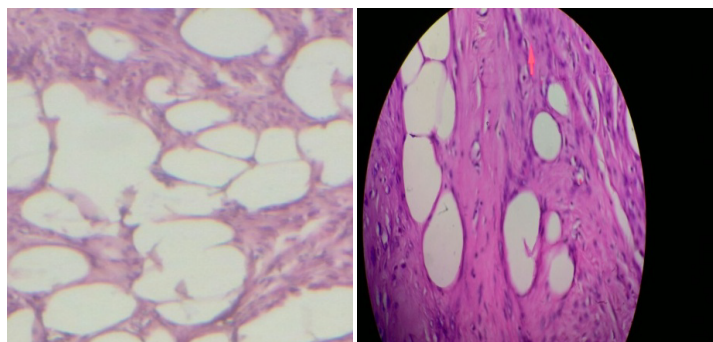
**Figure 1** Picture showing hysteroscopic view of a smooth polyp projecting into the uterine cavity

The endometrium was thin and there were no curettings. With a pre-operative preparation, she was taken up for laparotomy. At surgery there was no free fluid in the abdomen, omentum was smooth, no nodules were felt in the para colic gutters, no pelvic or para aortic nodes were palpable and the pelvis was clear. The uterus was enlarged to 10 weeks in size and the ovaries were atrophic. Therefore, total abdominal hysterectomy with bilateral salpingo-oophorectomy was proceeded with. Her post-operative period was uneventful. On cut section of the uterus, a well circumscribed, whitish, smooth mass was projecting into the uterine cavity (Figure 2).



**Figure 2** Picture showing cut section of the uterus with a polyp protruding into the uterine cavity

The histo-pathological examination demonstrated a polyp measuring 4.5 cm × 3 cm projecting into the uterine cavity. The endometrium measured 0.2 cm and the myometrial thickness was 1 cm. The cervix showed chronic ectocervicitis and endocervicitis. Multiple sections from the polyp showed clusters of adipose tissue arranged in lobules separated by thin septa suggesting a diagnosis of lipoleiomyoma (Figures 3 and 4).



**Figure 3 Figure 4**

**Figure 3 and 4 (H&E stain, 40X) Pictures showing clusters of mature adipocytes interspersed with smooth muscle bundles**

## DISCUSSION

Leiomyoma is a very common benign neoplasm of the uterus. However, lipoleiomyomas are very rare, and so far, very few cases have been reported in the literature. These tumours have a high content of fatty tissue [1]. Lipomatous uterine tumours are benign neoplasms, and histologically they are classified as lipomas, lipoleiomyomas and fibrolipomyomas [2]. The pathogenesis of this tumour is poorly understood. The theories suggest that these tumours arise either from the immature mesenchymal cells or from the fatty transformation of smooth muscles to mature adipocytes, or by fatty infiltration of connective tissue. Metabolic disorders of the lipid metabolism or oestrogen deficiency, which possibly promotes intracellular storage of lipids are also implicated in the occurrence of these tumours [3,4]. These tumours are commonly reported in obese perimenopausal and post-menopausal women [5]. Our patient was postmenopausal and was also over weight.

Most tumours are asymptomatic, but can present with symptoms similar to that of leiomyomas, such as pelvic discomfort and abnormal uterine bleeding. There are many case reports of lipoleiomyomas presenting with postmenopausal bleeding as in our case [6,7]. Almost all tumours have been reported in the intramural and sub serous locations. However in our case it was presented in the unusual submucous location.

By imaging studies, pre-operative diagnosis is possible. However, histo pathological examination (HPE) is required to confirm the diagnosis [6]. By imaging studies the reported incidence varies from 0.03% to 0.2% of leiomyomas [8]. Sonographically there is a hyperechoic mass surrounded by a hypoechoic rind, representing a layer of myometrium surrounding the fatty component [8]. CT imaging is very sensitive and specific for the diagnosis of lipoleiomyoma of the uterus which shows well circumscribed fatty mass with areas of non-fat soft tissue density which is more useful in the diagnosis of large tumours. On MRI imaging, there is high signal intensity on T1-weighted images. The fatty components may be confirmed using fat-suppression techniques [9]. Due to the fat content, lipoleiomyomas may be reported as ovarian teratomas [10]. Many of the case reports show that lipoleiomyomas are usually associated with commonly occurring leiomyomas [8]. But, in our case, lipoleiomyoma was the only tumour found within the uterus. Histologically these tumours show benign smooth muscle bundles with mature adipose tissue. It has been suggested that in lipoleiomyoma, there is fatty metamorphosis of the uterine smooth muscle which goes to form mature adipocytes rather than undergoing fatty degeneration. Our case also showed benign smooth muscles and mature adipocytes. Histologically lipoleiomyoma should be differentiated from leiomyoma with fatty degeneration. In lipoleiomyoma, adipose tissue is evenly distributed throughout the lesion suggesting that fat is integral part of the lesion [7]. There have been reports of concurrent endometrial carcinoma and lipoleiosarcoma along with lipoleiomyoma [3]. Even if pre-operatively diagnosed by imaging studies, the management of lipoleiomyoma of the uterus is same as that of leiomyomas.

## CONCLUSION

Lipoleiomyomas are very rare benign neoplasms of the uterus. The clinical presentation and management are the same as common leiomyomas. This case is presented because of its rarity and its unusual sub-mucous location.

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