

Lipoleiomyoma: a rare uterine tumor

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World Journal of Advanced Research and Reviews, 2021, 09(03), 269–271

Publication history: Received on 08 February 2021; revised on 12 March 2021; accepted on 14 March 2021

Article DOI: <https://doi.org/10.30574/wjarr.2021.9.3.0099>

Abstract

Uterine lipoleiomyoma is a rare benign tumor of the uterus. Imaging has an important role in determining its intrauterine location and fatty nature. The diagnosis in this lady was made only by chance pathological findings postoperatively. This tumor has been reported because of its rarity. Our aim to present this case is to raise clinical awareness of this tumor, then conservative treatment or noninvasive surgery can be offered.

Keywords: lipoleiomyoma; uterus; ultrasonography; pathology

1. Case report

The patient was a 43-year-old asymptomatic woman who presented for imaging to investigate her pelvic pain. An ultrasound scan showed an enlarged hyperechoic uterine mass 85 x 66x 77 mm, with an IUCD in situ in the endometrial cavity. It revealed increased vascularity and a large vessel penetrating into the tumor (Figure 1A, 1B).

The tumor was intramural in the uterine corpus, with both ovaries and tubes normal in appearance. She was offered a HIFU ablation treatment. However, she decided to have a hysterectomy because she worried about cancer and has completed her family. A total hysterectomy was performed. On cutting open the uterus, grossly circumscribed fresh yellow mass measuring 10 x 6 x 6 cm was present in the anterior uterine wall (Figure 1C).

The pathology confirmed lipoleiomyoma with variable amounts of smooth muscle, fat tissue, and fibrous tissue (Figure 1D). This paper illustrates how a definitive diagnosis can be made before an operation and discusses the alternative treatment for this rare tumor.

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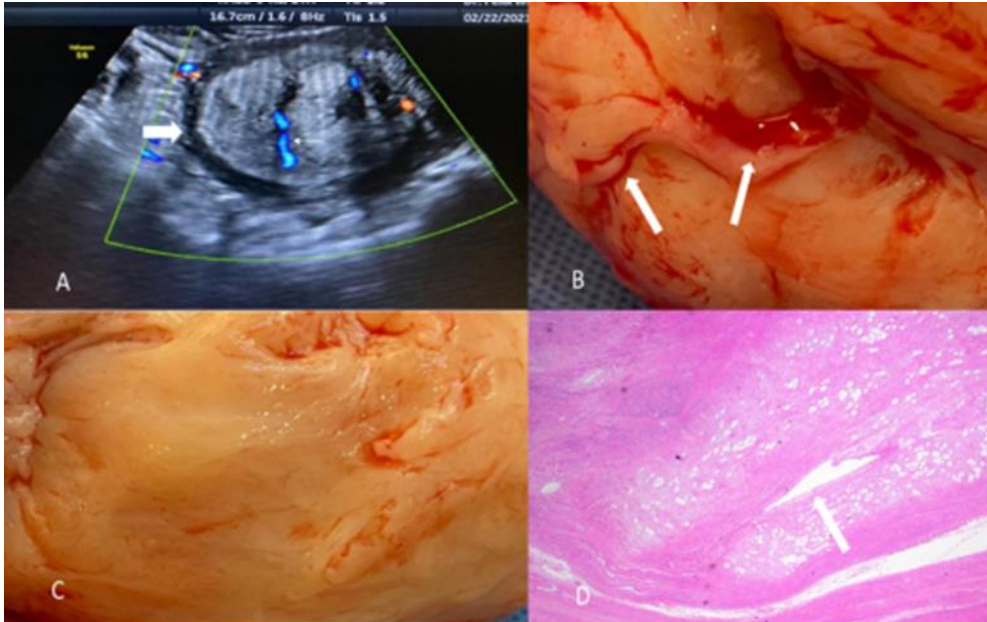


Figure 1 A. The ultrasound scan showed a hyperechoic tumor encased by a hypoechoic rim of the myometrium (large white arrow). The tumour showed increased vascularity with a large vessel penetrating the tumor (small white arrow); B. Fresh specimen of the tumour showed large vessels (white arrows); C. A fatty look of the fresh specimen; D. Haematoxylin and eosin stain at 40 X magnifications showed mature fat cells (with large vacuolated cytoplasm) and eosinophilic smooth muscle fiber with low cellularity. A thick-walled blood vessel was seen within the tumor (white arrow)

2. Discussion

Uterine lipoleiomyoma is a rare benign tumor. Its occurrence varies from 0.03% to 0.2% (1) and is typically found in postmenopausal women (2, 3) and are associated with ordinary leiomyomas. From the literature, most of these patients are also asymptomatic. The largest report in the literature belongs to Akbulut, 2014, with 70 cases (3). However, the lady in our case report was premenopausal, which was seldom reported (4). Sometimes, patients with lipoleiomyomas reported in the literature might have other metabolic disorders (3) such as hypothyroidism, hyperlipidemia, diabetes mellitus and abnormal estrogen state. This might cause the abnormal disposition of fat in the benign leiomyoma and sometimes concomitant gynecologic malignancy. The cause of lipoleiomyoma is the fatty metamorphosis of smooth muscle cells of leiomyomas rather than fat degeneration [4]. This lady's sonographic appearance showed a hyperechoic mass encased by a hypoechoic rim of the myometrium (figure 1a). Yet, the ultrasound findings are not specific to the diagnosis of lipoleiomyoma. MRI was not done on this lady because she preferred a hysterectomy. With its fat suppression technique, MRI is a useful technique to diagnose uterine lipoleiomyomas with high sensitivity and specificity to fat and its intrauterine location. It will show hyperintense signals on the T1- weighted images.

Even radio-imaging plays an important role in determining the location and its fatty nature of the tumor; many lipoleiomyomas were detected by chance pathological findings postoperatively. Diagnosing these neoplasms on ultrasonography is difficult, but with certain ultrasound features, the diagnosis might be possible. One must also differentiate lipoleiomyoma from leiomyoma with fatty degeneration. In the former tumor, fat tissue is evenly distributed throughout the lesion because it is an integral part of the tumor. This lady came for the noninvasive HIFU ablation treatment. However, because of the lack of awareness of this condition, the correct diagnosis of lipoleiomyoma was not made. It was a pity that proper medical consultation and appropriate noninvasive HIFU ablation treatment were not offered.

Finally, it is reminded that lipoleiomyoma of uterine origin is an extraordinarily rare entity with clinical manifestation similar to leiomyomas. As malignant degeneration in uterine lipoleiomyoma is extremely rare, having modern, intuitive ultrasound and MRI characteristics can raise the clinical awareness of this tumor and help avoid major surgery, but still with an excellent prognosis (5, 6).

3. Conclusion

Lipoleiomyoma is a rare uterine tumor. Ultrasonographic imaging and MRI can diagnose it before surgery if there are imaging awareness of its characteristics, as reported in this paper. Then conservative treatment or noninvasive surgery like HIFU ablation can be offered to the patient with this tumor.

Compliance with ethical standards

Acknowledgments

I write to thank Dr Ivy Sheung Ching Luk for providing and explaining the pathology of the tumor.

Disclosure of conflict of interest

There is no conflict of interest.

Statement of informed consent

Informed consent was obtained from the patient in the study.”

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Author's short Biography



Dr. Wu Shun Felix Wong

He is an Adjunct Professor at the University of New South Wales, Sydney, Australia. He had contributed to medical education in Asia Pacific Countries over the past 30 years. In recognition of his contributions to teaching, he received many awards and honors. Dr Wong has co-edited 14 medical books and had published more than 200 papers in local and international journals.