

LIPOLEIOMYOMA OF THE UTERUS

Farheen Rizwan, Rukhsana Tariq, Rashid Ahmed

Advanced Radiology Clinic (Pvt.) Ltd., Karachi, Pakistan.

PJR July - September 2009; 19(3): 80-82

Introduction

Lipoleiomyoma is a specific type of a leiomyoma containing substantial amount of fat.¹ These are rare benign tumors of the uterus consisting of smooth muscle and mature adipose tissue. The origin of lipomatous lesions of the uterus have different pathological causes including misplaced embryonic fat cells, metaplasia of muscle or connective tissue cells into fat cells, lipocytic differentiation of a specific primitive connective tissue cell, perivascular fat cells accompanying the blood vessels into the uterus, inclusion of fat cells into the uterine wall during surgery, or fatty infiltration or degeneration of connective tissue.² Imaging has an important role in determining the intrauterine location, fatty nature of the lipoleiomyomas and differentiation of this tumor from cystic ovarian teratoma, as teratoma is usually excised surgically while lipoleiomyomas does not require any treatment.³

Case History

A 70 years old female was referred to our clinic for MRI pelvis. She had history of two episodes of post menopausal bleeding, the first episode was two years back and the second episode was two months back. She is menopausal since twenty years. She was also complaining of backache since several years which had increased in intensity since two to three months. She also had frequency of micturation and constipation off and on. She also had no gynaecological problems during her fertile life. Her ultrasound pelvis done

demonstrated an echogenic pelvic mass for which she was referred to us for MRI examination.

MRI pelvis of the patient shows antverted, bulky uterus with a well – circumscribed, encapsulated, intramural mass, occupying the posterior uterine wall. The mass showed hyperintense signals on T1W images (Fig. 1A) and suppression of signals was seen on T1W FS images (Fig. 1B). T2W images shows intermediate signals while marked hypointensity was seen on STIR images (Fig. 1C). The mass measured 6.5 x 6.0cms.

A concomitant ultrasound was also done at ARC with MRI which showed a well circumscribed, rounded, hyperechoic mass lesion in the posterior uterine wall.



Figure 1A: T1W axial image showing hyperintense signal in the mass.

Correspondence : Dr. Rashid Ahmed M.D.
Advanced Radiology Clinic (Pvt.) Ltd.
UAN: 111-111-(ARC) 272
Fax: 021-32788-200
Email: arcra@cyber.net.pk



Figure 1B: Suppression of signals on axial T1WFS image.



Figure 1C: STIR axial image shows low signals in the mass.

Discussion

Uterine lipoleiomyoma is a rare benign tumor, suspected of being a variation of leiomyoma.⁴ The reported incidence varies from 0.03 to 0.2%.⁵ Lipoleiomyomas are typically found in post menopausal women. Most patients are asymptomatic. Signs and symptoms include palpable mass, post menopausal bleeding, pelvic pain, dysuria and anemia.⁶ This tumor has been reported to range in size from 3mm to 32cms in diameter. It is a well circumscribed encapsulated tumor. It is most frequently located in the posterior wall of uterine corpus. Some are also seen in uterine cervix.⁷ Lipoleiomyomas are composed


histologically of variable amounts of smooth muscle, fat cells and fibrous tissue. Fatty metamorphosis of smooth muscle cells of leiomyoma is the most likely cause of the development of lipoleiomyoma.⁸ On ultrasound the lipoleiomyoma appears as hyperechoic mass partially encased by a hypoechoic rind. The rind is thought to represent a layer of myometrium surrounding the fatty component. C.T scan shows a well circumscribed predominantly fatty mass with areas of non-fat soft tissue density arising from the uterus.⁹ MR Imaging shows the lipomatous nature of the lesion. This imaging modality typically presents the lipoleiomyoma as a well demarcated mass that is hyperintense with hypointense amorphous bundles on T1 and T2 weighted images with chemical shift artifact. The fatty components may be confirmed using fat suppression techniques.¹⁰

Conclusion

In conclusion, we report a case of lipoleiomyoma on MRI. Evaluation of this tumor on MRI according to signal characteristics, its size and location is diagnostic. MRI including a fat suppression sequence is a useful technique to diagnose uterine lipoleiomyoma with its high sensitivity and specificity to fat and its multisectional ability to show the precise location of the lesion.

References

1. Dellacha A, Di Marco A, Foglia G, Fulcheri E. Lipoleiomyoma of the uterus. *Pathologica* 1997;**89**:737–41 [Italian]
2. Willen R, Gad A, Willen H. Lipomatous lesions of the uterus. *Virchows Arch A* 1978;**377**:351–61
3. Dodd GD III, Budzik RF. Lipomatous uterine tumors: diagnosis by ultrasound, CT and MR. *J Comput Assist Tomogr* 1990;**14**:629–32

-
- 
4. Silverberg SG, Kurman RJ. Tumors of the uterine corpus and gestational trophoblastic disease. Washington, DC: Armed Forces Institute of Pathology, 1992:127–30
 5. Prieto A, Crespo C, Pardo A, Docal I, Calzada J, Alonso P. Uterine lipoleiomyomas: US and CT findings. *Abdom imaging* 2000;**25**: 655–7.
 6. Oppenheimer DA, Carroll BA, Young SW. Lipoleiomyoma of the uterus. *J. Comput Assit Tomogr* 1982;**6**:640–2.
 7. Chachutow D, Brill R. Lipomas of uterus. *Am J Obstet Gynecol* 1957;**73**: 1358 – 61
 8. Taushima Y, Kita T, Yamamoto K. Uterine lipoleiomyoma: MRI, CT and ultrasonographic findings. *Br J Radiol* 1997;**70**:1068–70
 9. Avritscher R, Lyer RB, Ro J, Whitman G. Lipoleiomyoma of the uterus. *Am. J. Roentgenol*, 2001;**177**:856
 10. Kitajima K, Kaji Y, Imanaka K, Sugihara R, Sugimura K. MRI findings of uterine Lipoleiomyoma correlated with pathologic findings. *Am, J. Roentgenol*, 2007;**189**: W100–W104