Original Research Paper

Volume - 11 | Issue - 11 | November - 2021 | PRINT ISSN No. 2249 - 555X | DOI : 10.36106/ijar

Pathology

UTERINE LIPOLEIOMYOMA: A RARE CASE REPORT

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ABSTRACT Lipoleiomyoma is a rare, benign lipoid tumor of the uterus. Histologically, these tumors are composed of variable amount of smooth muscles with lobules of adipocytes separated by thin fibrous tissue. They primarily occur in obese postmenopausal women and often remain asymptomatic. Imaging plays a crucial role in determining the intrauterine location along with the fatty component of these tumors. Treatment of these tumors depends on the extent and severity of the patient's symptoms. Hereby, we report a case of lipoleiomyoma in a 51-year-old woman with brief review of literature.

KEYWORDS : Lipoleiomyoma, fatty tumor, uterine lipoleiomyoma, uterine mass

INTRODUCTION

The primary lipomatous tumors of the uterus are rare neoplasms with a spectrum varying from pure lipomas to the exceedingly rare malignant tumor i.e., the liposarcoma[1]. Lipoleiomyoma (LLM) is a rare, benign lipoid tumor with an overall reported incidence of 0.03 to 0.2% [2-4]. These tumors are histologically composed of variable amount of smooth muscles with lobules of adipocytes separated by thin fibrous tissue. LLM's can be associated with endometrial hyperplasia, endometriosis, adenomyosis and polyps[1].

We report a case of Lipoleiomyoma in a 52-year-old post-menopausal woman because of its rarity.

CASE REPORT

A 51-year-old para 5, live 5 postmenopausal woman presented with a mass protruding out of vagina since 6 months. She had no history of postmenopausal bleeding, dysuria, hematuria, abdominal distension or discharge per vagina. Further history revealed that she attained her menopause 2 years back and is a known case of hypothyroidism, presently on medications. On physical examination her vitals were normal. Gynecological examination revealed a 3rd degree uterovaginal prolapse with a small first degree cystocele with an atrophic uterus. Routine investigations revealed mild anemia (Hemoglobin- 9.8 gm/dl) and hypothyroidism (Thyroid Stimulating Hormone- 9.08 mIU/L). Her CA-125, CEA, CA 19-9 and AFP values were within normal limits.

Pelvic ultrasonography revealed an atrophic endometrium with a hyperechoic pelvic mass measuring 2.3 X 1.2 cm arising from the posterior aspect of the uterus with non-visualization of uterocervical angle. Bilateral ovaries and tubes were unremarkable. Vaginal hysterectomy with anterior colporrhaphy was performed and the specimen was sent for histopathological examination.

We received a specimen of uterus cervix measuring 8 X 4.5 X 3.5 cm with an attached subserosal fibroid measuring 2 X 1.5 cm on the posterior aspect of the corpus of uterus. Cut section revealed a slit like endometrial cavity with endomyometrial thickness measuring 2cm, cut section of the mass showed firm grey-white areas with soft yellow areas. Cervix appeared hypertrophied with evidence of epidermidization. (Figure 1)

Multiple sections were taken, histopathological examination revealed an encapsulated tumor with interlacing fascicles of smooth muscle cells without nuclear atypia admixed with sheets of mature adipocytes. The nuclei of the smooth muscles were elongated and had even chromatin with no mitoses or necrosis. The adipose component was devoid of lipoblasts. The endometrium appeared atrophic and myometrium showed foci of adenomyosis. Cervix revealed chronic cervicitis with squamous metaplasia. Based on these findings, the diagnosis of a benign lipoleiomyoma was rendered. (Figure 2)

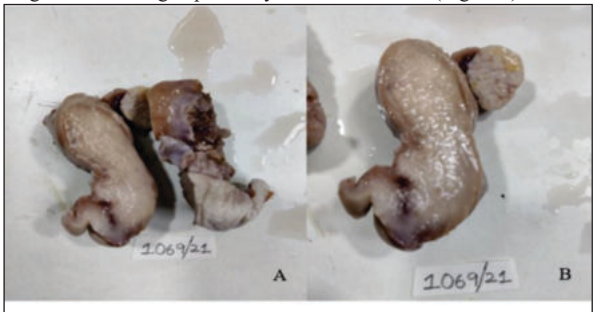

Figure 1- A: Gross photograph of uterus cervix with an attached subserosal fibroid on the posterior aspect of the uterus, cervix shows epidermalization. B: cut section of the fibroid shows grey white whirling along with grey yellow areas denoting fat.

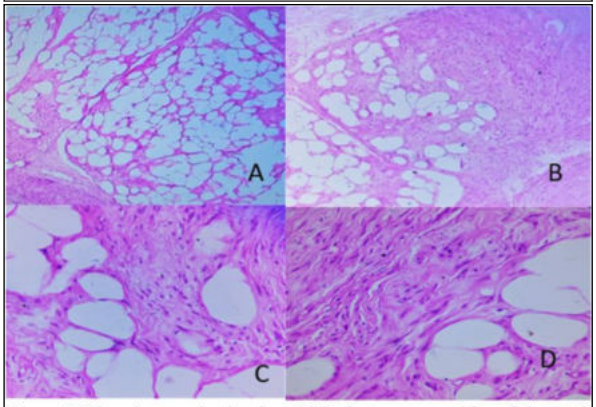

Figure 2- Microphotographs showing a biphasic tumor comprising of sheets of mature adipocytes with intersecting fascicles of monotonous spindle cells with indistinct borders, cigar shaped nuclei and eosinophilic cytoplasm. (A and B - H&E, 100X) (C and D- H&E, 400X)

DISCUSSION

Primary Lipomatous tumors of the uterus are uncommon and can be

categorized into 3 types:-
· Pure lipomas- composed of mature adipocytes
· Lipomas with mesodermal components- Lipoleiomyoma, angiomyolipoma, fibromyolipoma
· Liposarcoma- the exceedingly rare malignant type[5]

LLM was described in 1961[6]. They are rare variants of leiomyomas, usually seen in the obese perimenopausal and post-menopausal women with clinical features similar to that of leiomyoma such as abnormal uterine bleeding, pelvic discomfort, urinary frequency and incontinence. They are frequently encountered intramurally in the uterine corpus, but have also been reported in the cervix, retroperitoneum and the broad ligament[3].

The pathogenesis of LLM remains uncertain. Various authors have suggested numerous mechanisms such as metaplasia of immature perivascular mesenchymal cells or smooth muscle cells of leiomyoma to adipocytes, infiltration of the connective tissue by fat and embryonic fat cells misplacement[1,4,5].

Numerous immunohistochemical studies do suggest much more complex histogenesis, a study done by *Akbulut et al* concluded that the fat component showed positivity for ki-67, desmin, vimentin and ER, PR receptors, thus indicating towards the origination of the adipose cells from the transformation of a totipotent mesenchymal cells[8].Other conditions playing a role in the pathogenesis are hyperestrogenic state, hyperlipidemia, diabetes mellitus and hypothyroidism, similar to our case.

It is important to differentiate LLM from other diagnosis as they may require different management and possibly a surgical intervention[7]. The differentials for a fat containing mass in a female pelvis are limited. The commonest of them all is the benign cystic teratoma, others being benign pelvic lipoma, fatty degeneration of leiomyoma, fatty lymphadenopathy or well-differentiated liposarcoma[1,4,5].

Imaging plays an important role in diagnosing LLMs. Ultrasonography (USG) is usually the first imaging modality of choice in a case of a pelvic mass in a female. USG examination characteristically reveals a well demarcated lesion composed predominantly of fat with presence of areas of soft tissue density. CT scan and MRI are the definite imaging modalities that can help in determining the uterine origin and the fatty nature of LLM but mostly these tumors are incidentally found postoperatively on histopathological examination[2,3,6].

Pre-operative differentiation of the benign variants such as leiomyomas and lipoleiomyoma with the malignant type liposarcoma is quiet challenging. The emergence of the intermediate variants (STUMP or the aggressive histologic subtypes of LMS) has made it even more complicated. Biomarkers such as lactate dehydrogenase which are thought to be increased in the internal degeneration of tumors, commonly seen in LMS is emerging as a new modality in helping to differentiate between the benign and malignant counterparts. However, currently no guidelines have been formulated on the use of biomarkers and imaging[7].

Treatment of LLMs depends on the extent and severity of the patient's symptoms, her age, desire of fertility and the location of the mass. In an asymptomatic mass, it is often managed conservatively. When symptomatic, LLM is usually managed surgically by hysterectomy, myomectomy, myolysis, uterine artery embolization or radio frequency ablation[5,7].

CONCLUSION

Uterine lipoleiomyomas are benign uterine tumors arising primarily in obese postmenopausal women. They present with clinical spectrum similar to that of leiomyomas and when symptomatic they are managed surgically. Imaging plays a crucial role in diagnosing them but they are often found incidentally on histopathological examination.

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