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A rare case of spindle cell lipoma of broad ligament presenting as a pelvic mass

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Dear Editor,

In clinical practice, broad ligament (BL) tumors are rarely encountered. Amongst the group of lipomatous tumor of BL, accurate histopathological subtyping like lipoma, atypical lipomatous tumor, spindle cell lipoma (SCL), and well-differentiated liposarcoma is of great significance, as it impacts treatment strategies and outcome. We report a case of SCL in the unusual site of BL. To our knowledge, this variant of lipoma of the BL has not been stated in the literature so far, which has prompted us to report this case.

A 57-year multiparous post-menopausal female, a known case of diabetes mellitus with hypertension since 4 years, was presented to the casualty. She had complaints of excruciating pain in the abdomen and retention of urine. Catheterization was done. Per vaginum examination showed fullness in the posterior fornix. Uterine size was not appreciated due to obesity. Cervix was palpated and was normal. Based on urine culture sensitivity report, the patient was put on nitrofurantoin. Other systemic examination and routine laboratory findings were non-contributory.

Pelvic ultrasonography (USG) showed a well-defined, rounded, homogenous, and hypoechoic mass measuring 10.5 × 8.8 × 6.2 cm mass in pouch of Douglas. Uterus was small in size and ovaries were not visualized. USG findings suggested the possibility of fibroid. Possibility of ovarian mass could not be ruled out. Magnetic resonance imaging (MRI) showed a large T1 and T2 hyperintense lesion appearing hypointense on fat sat images measuring 9 × 5 × 4 cm in the right adenexa displacing and abutting the uterus. The fat plane between the mass and the uterus was lost. Right ovary was not visualized separately. Left ovary was atrophic. The findings were suggestive of neoplastic etiology mostly ovarian benign lesion like dermoid.

She was taken for exploratory laparotomy. Intraoperatively, a well-circumscribed mass was seen arising from posterior aspect of the uterus in the region of BL. Total hysterectomy with bilateral salpingo-oopherectomy and removal of mass lesion was done.

The gross specimen received revealed uterus measuring 5 × 5 × 3 cm. The cervix was 2.5 cm in length and was unremarkable. Cut section of the uterus showed endometrial thickness of 0.5 cm and myometrial thickness of 4.5 cm. A well-encapsulated lobulated tumor without any serosal

adhesions was noted on the posterior aspect of the uterus measuring 12 × 8 × 5 cm [Figure 1]. Cut surface of the tumor showed homogenous yellowish lobular areas with few whitish streaks. Both the ovaries and fallopian tubes were unremarkable.

Microscopic examination from the well-encapsulated tumor mass showed presence of lobules of mature adipocytes separated by fibrovascular septa. Fibrous strands and spindle cells in myxoid matrix traversed the adipocytes at places. The spindle cells showed bland oval nuclei and moderate eosinophilic cytoplasm. Areas of atypia, necrosis, and abnormal mitosis were absent. Immunohistochemistry (IHC) was performed with cluster of differentiation (CD)-34 (clone QBEnd/10, Novacastra), desmin (clone33, Dako), smooth muscle actin (SMA) (clone 1A4, Novacastra), vimentin (clone V9, Dako), and hormonal status markers like estrogen receptor (ER) (clone 6F11, Novacastra) and progesterone receptor (PR) (clone PGR312, Novacastra). The tumor cells showed strong cytoplasmic immunoreactivity for vimentin and membrane immunoreactivity for CD-34. Strong nuclear immunoreactivity for ER and PR was shown by both spindle cells and adipocytes. Desmin and SMA were negative.

Based on aforementioned observations, diagnosis of SCL of BL was finalized. Postoperatively the patient is disease free on 2-years follow-up.

Pelvic masses pose diagnostic and therapeutic challenge. A retroperitoneal lipoma presenting as an adnexal mass is exceedingly rare.[1] Primary solid tumors of the BL reported in literature include leiomyoma, serous papillary cystadenoma of borderline malignancy, and female adenexal tumor of probable wolffian origin.[2] Only two cases of SCL of female genital tract (FGT) are so far described in cervix and vulva.[3] To the best of our knowledge, SCL of BL has not been reported. SCL is a distinct entity with its characteristic clinicopathological and IHC features.[4]

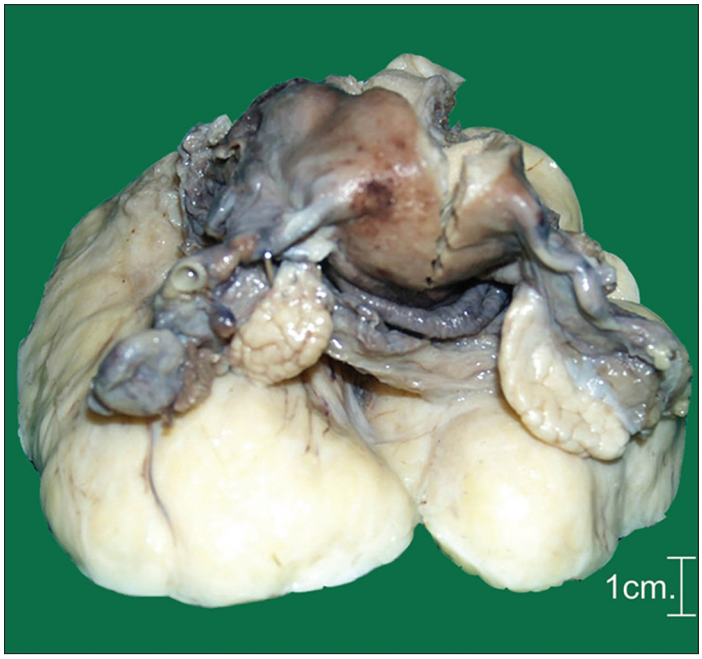

Figure 1: Uterus with cervix with bilateral adenexa measuring 10 × 5 × 3 cm. A well-encapsulated lobulated tumor was seen on the posterior aspect of the uterus measuring 12 × 8 × 5 cm

The criteria established by Gardener *et al*., for the tumor to be said arising from BL is that the tumor should be completely separable from and not connected either to uterus or ovary, as in our case.[2] Lipoma in the FGT is most commonly seen as a component of leiomyoma.[3] Few cases of true lipomas of BL are mentioned in literature.[5] Lipoma is relatively rare in retroperitoneum and abdominal cavity. In retroperitoneum, they are mainly renal angiomyolipomas. Extra renal retroperitoneal lipomas have rarely been documented.[6] Individual case reports of fibromyxolipoma and fibrolipoma arising in BL have been reported.[5] SCL was first described by Enzinger and Harvey. There are reports describing SCLs at unusual sites such as oral cavity and scalp.[4]

The origin of lipomas in BL has been debated so far. The first case was reported by Pollock. The origin of fatty tissue in the BL normally devoid of such tissue posed a problem. Few suggest local developmental anomaly. Others suggest some teratological element. Metaplasia of connective tissue is also implicated.[7]

The presence of androgen receptors predominantly in the spindle cells of SCLs indicates that hormonal influence may contribute to the tumor growth.[8] In our case, strong immunoreactivity for ER and PR in both adipocytes and spindle cells was noted suggesting that the fat could be specific for FGT fat. More studies are needed to elucidate the matter further.

Our case presented with acute abdominal emergency due to urinary retention.[2] The differential diagnosis of SCL of the BL is important in that they can be misdiagnosed as a malignant lesion such as a liposarcoma on the basis of clinicoradiological findings. The final diagnosis rests on histopathological and IHC evaluation.[4]

Our case highlights the rarity of lesion and also emphasizes the importance of its differentiation from other lipomatous lesions including liposarcoma, which is mandatory for better patient management. In conclusion, the SCL should be included in differential diagnosis in woman presenting with retroperitoneal BL mass lesion.

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