Case Report

Lipoleiomyoma associated with Uterine Endometrioid Carcinoma: With Uncommon presentation

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ABSTRACT

Lipoleiomyoma is a rare benign variant of uterine leiomyoma characterized by the presence of mature adipocytes intermixed with smooth muscle cells. The Incidence of lipoleiomyoma varies from 0.03 percent to 0.2 percent and is more prevalent in perimenopausal and post menopausal women. it's association with Endometrioid carcinoma with cytoplasmic lipoid inclusions is even rare and hence substantiates documentation. Incidence of lipoleiomyoma and Endometrioid carcinoma accounts for 11.4 percent as per literature. Lipoleiomyomas are best detected via CT or MRI, which reveals the fatty component. However, in the presence of coexisting endometrioid carcinoma, imaging as this case was complex with diagnostic dilemmas.

We report a case of uterine endometrioid carcinoma occurring in association with multiple uterine leiomyomas, including a lipoleiomyoma involving the lower uterine segment and cervix. This mass obscured hysteroscopic evaluation in a 62-year-old postmenopausal woman who presented with vaginal bleeding. Initial histopathological evaluation was inconclusive, confirming leiomyoma by USG but masking underlying endometriod carcinoma of the endometrium due to extensive lipoid changes, there by failing to adequately assess the endometrium.

A hysterectomy performed for presumed leiomyoma subsequently revealed a benign cervical canal lipoleiomyoma coexisting with FIGO stage IA endometrioid carcinoma and multiple leiomyomas. This case highlights the diagnostic challenges posed by cervical lipoleiomyoma obscuring hysteroscopic and sonographic view, in postmenopausal women and emphasizes the need for careful and thorough endometrial evaluation in this age group of population.

Keywords: Lipoleiomyoma; Endometrioid carcinoma; Postmenopausal bleeding.

1. BACKGROUND

Lipoleiomyoma is a rare histological variant of uterine leiomyoma a benign tumor, with a reported incidence ranging from 0.03% to 0.2%. [1, 2-13].

It is characterized by an admixture of smooth muscle cells and mature adipocytes and predominantly occurs in perimenopausal and postmenopausal women. Although lipoleiomyoma typically follows a benign clinical course, its coexistence with endometrial carcinoma is uncommon, accounting to 17% [14, 15, 16, and 17] and may pose diagnostic challenges, particularly when the lesion interferes with adequate endometrial sampling. We report a rare case of uterine endometrioid carcinoma occurring in association with cervical lipoleiomyoma.

2. CASE PRESENTATION

A 62-year-old postmenopausal woman presented with vaginal bleeding and chronic lower back pain of one year's duration. She attained menopause at 55 years of age. General physical and systemic examinations were unremarkable, and routine laboratory investigations were within normal limits.

Gynecological examination revealed a mass expanding the cervical os. Contrast-enhanced computed tomography (CECT) of the pelvis

demonstrated multiple well-circumscribed intramural uterine masses, the largest measuring 2.5 × 1.0 × 1.2 cm. Gross examination showed a cut surface of the uterus with leiomyomata (Fig. 1. Cut surface of uterus with intramural leiomyoma and endometrial polypoid lesions).

Due to inadequate access for endometrial sampling and suspicion of the presence of focal glandular hyperplasia on diagnostic biopsy, the patient underwent a total abdominal hysterectomy.

On gross examination, the uterus measured 8 × 5 × 4.4 cm and contained multiple well-circumscribed, intramural, whorled masses ranging from 0.5 to 2.3 cm in diameter. Focal yellowish areas suggestive of adipose tissue were identified, with the largest measuring 1.6 cm. The endometrium appeared bulky with polypoid projections (Fig. 1).

Fig. 1. Gross photo of uterus showing intramural leiomyoma and endometrial polypoid lesions.

Microscopically, the intramural masses of bland spindle-shaped smooth muscle cells arranged in intersecting fascicles, admixed with mature adipocytes features of which were those of Lipoleiomyoma. (Figs. 2, 3) Spindle-shaped smooth muscle cells arranged in intersecting fascicles, admixed with mature adipocytes (H and E 10x).

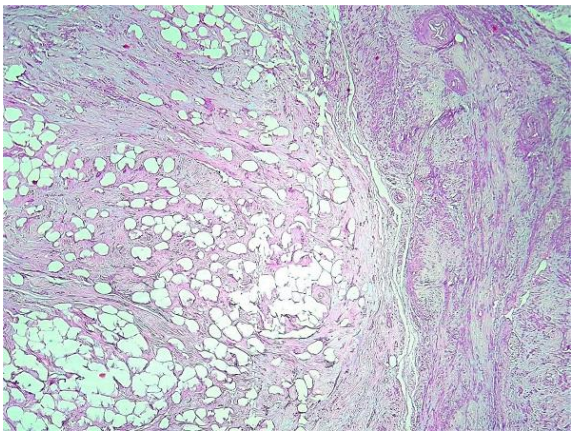

Fig. 2 & 3. Spindle-shaped smooth muscle cells arranged in intersecting fascicles, admixed with mature adipocytes (H and E 10x)

There was no evidence of nuclear atypia, tumor necrosis, or significant mitotic activity (1 per 10 high-power fields). Immunohistochemical analysis demonstrated diffuse positivity for smooth muscle actin (SMA) (Fig.4) with negativity for CD34, confirming the diagnosis of lipoleiomyoma.

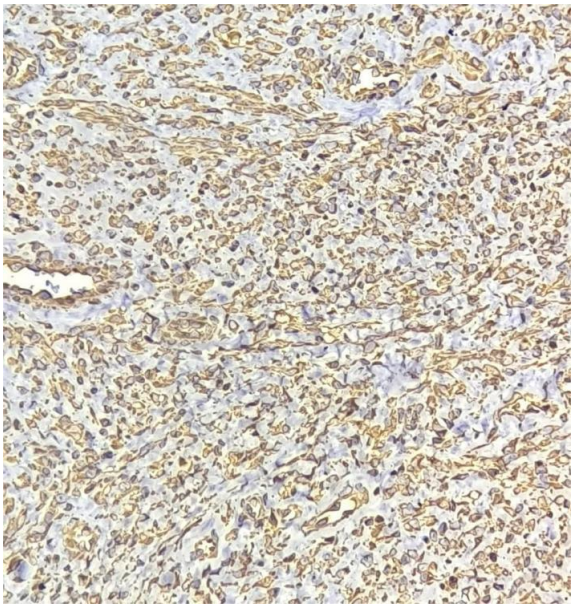

Fig. 4. Diffuse positivity for smooth muscle actin (IHC)

The endometrium revealed endometrioid carcinoma, FIGO grade 1, confined to the endometrium with less than 50% myometrial invasion (pT1a N0). Regional lymph nodes were negative for metastasis. Cytoplasmic lipid vacuoles within the tumor cells was also noted (Fig. 5), which is not documented earlier. The postoperative course was uneventful.

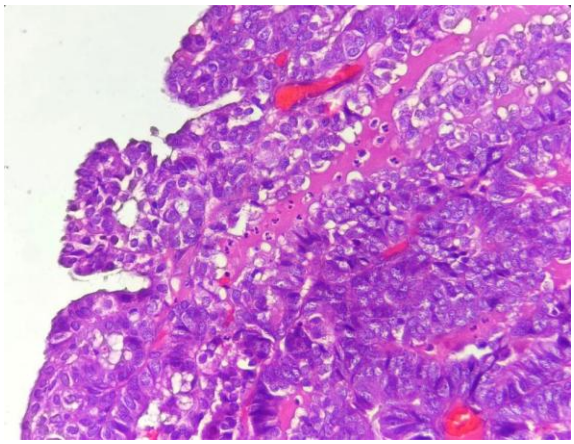

Fig. 5. Cytoplasmic lipid vacuoles within the tumor cells were noted (H and E 40x)

3. BRIEF DISCUSSION

Lipoleiomyoma is a rare benign uterine tumor, most often detected incidentally during histopathological examination. It predominantly affects postmenopausal women and is usually asymptomatic or presents with symptoms similar to those of conventional leiomyomas. Radiologically, fat-containing uterine lesions raise a differential diagnosis that includes lipoleiomyoma and, rarely, liposarcoma.

The pathogenesis of lipoleiomyoma remains uncertain. The mechanisms are postulated to be adipocytic metaplasia of smooth muscle cells and hormonal factors involving estrogen deprivation. Considering unopposed estrogen stimulation, hormonal modulation might have led to coexistance of both tumors.

The potential molecular mechanisms for enhanced tumor aggressiveness could be the TGF-β1–induced decrease of PTEN expression via the SMAD and ERK1/2 pathways. Additionally, mechanical distortion of the uterine cavity and altered myometrial signaling may obscure underlying endometrial pathology resulting in loss of precious time to diagnosis.

This case highlights the need, in post-menopausal women, for a detailed hysteroscopic examination of the endometrium to rule out concurrent malignancy especially when the vision when the field of vision is obscured by cervical lesions

4. CONCLUSION

Although uterine lipoleiomyoma is a rare benign entity, its occurrence in postmenopausal women may mask an underlying endometrial carcinoma, particularly due to its unusual location. Careful histopathological examination of biopsy and resection specimens is essential to confirm the diagnosis, detect associated pathology, and guide appropriate management. Evaluation of associated metabolic syndrome and fatty metamorphosis is also important for holistic patient care.

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Ethical Information: Permission was obtained from the institute for the work and also granted for publication of case reports. Patient consent was obtained at the time of admission and surgery, with consent for research if any. Hence there are no ethical issues that will arise from documentation and printing. All patient details are kept confidential.

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Data collection: Data collection, Writing: Dr. Safina.

Data collection, Manuscript reviewing and useful critics: Dr. Nidha, Dr. Archana.

List of abbreviations used:

FIGO: International Federation of Gynecology and Obstetrics

PTEN: Phosphatase and Tensin Homolog

SMAD: Mothers against decapentaplegic homolog 2, known as SMAD family member 2

TGF: Transforming Growth Factor beta

H and E: Hematoxylin and Eosin stain

USG: Ultrasonography

CECT: Contrast- Enhanced Computed Tomography

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