Huge Uterine Tumor in a Postmenopausal Woman

Yevgenia Rosenblat, MD; Lea Rath-Wolfson, MD; David Rabinerson, MD; Rumelia Koren, MD

A 59-year-old, gravida 3, para 3, postmenopausal woman was admitted for transabdominal hysterectomy and bilateral salpingo-oophorectomy because of the finding of a huge (20-week) uterus that was discovered during a physical examination following 1 episode of postmenopausal bleeding. Fractional curettage demonstrated a benign endometrial polyp. The past medical history of this woman included non-insulin-dependent diabetes mellitus, mild hypertension, and psoriasis balanced and stabilized by medication for the last 2 years.

Pelvic ultrasound demonstrated a uterus measuring 10.9 × 12.2 × 11.6 cm and containing a large mass 10.2 × 9.8 × 10.1 cm. Ten months later the uterine size had enlarged further, to 16.4 × 15.2 × 16.7 cm, and its entire cavity was occupied by a tumor with mixed echographic pictures.

The patient underwent transabdominal hysterectomy and bilateral salpingo-oophorectomy by lower transverse abdominal incision. The uterus was enlarged, adnexae were normal, and no ascitic fluid was found. The postoperative course was normal, and the woman was discharged on postoperative day 5 in good health.

The excised specimen consisted of a uterus, measuring 19 × 14 × 14 cm and weighing 2075 g, and normal-looking adnexae. The external contour of the uterus was smooth. Cut section revealed in the myometrium a relatively circumscribed fleshy tumor with necrotic and hemorrhagic areas, measuring 16 × 13 × 12 cm and arising in the body region. There was no extension into the endometrial cavity, nor into the pelvic peritoneum.

Light microscopic examination of hematoxylin-eosin-stained sections showed a smooth muscle tumor composed predominantly of intersecting fascicles of large spindle cells with markedly atypical nuclei (Figure 1), mitoses, and multinucleated giant cells (Figure 2). Sections from other areas revealed proliferating multivacuolated lipoblasts with large hyperchromatic nuclei (Figure 3). Some areas showed a myxoid background with a plexiform network of capillaries. Scattered mitotic figures were found in most sections (<1/50 high-power fields), but in other areas the mitotic rate was high (10/10 high-power fields). A few atypical mitotic figures were also identified. In the central areas of the tumor, extensive coagulative necrosis was found. Whole endometrial sampling was carried out, which showed atrophic endometrium without any malignant component.

Immunostains for smooth muscle actin, desmin, and caldesmon (Figure 4) were strongly positive in the spindle and multinucleated atypical cells. The entire tumor had negative results for cytokeratin.

Immunostaining for MIB-1 (Ki-67) showed a proliferation index of 25%.

What is your diagnosis?
Huge Uterine Tumor in a Postmenopausal Woman—Rosenblat et al
**Pathologic Diagnosis: Uterine Lipoleiomyosarcoma**

Pure uterine sarcomas are classified on the basis of tumor cell differentiation. The most common uterine sarcoma is leiomyosarcoma (LMS), which arises directly from the myometrium. Pure LMS represents about 1.3% of all uterine malignancies and about one third of uterine sarcomas. Approximately 1 of every 800 smooth muscle tumors of the uterus is an LMS, but slightly less than 1% of women thought clinically to have leiomyoma prove to have LMS.1 These data are from a self-referred indigent population at a women's hospital in the United States, rather than a referral center.

Lipomatous elements in benign neoplasm (lipoleiomyoma) occur in postmenopausal women. It has been postulated that the adipose tissue of a uterus lipomatous tumor derives from misplaced embryonal mesodermal remnants from totipotential primitive mesenchymal cells with a potential for lipoblastic differentiation.2

Benign mesenchymal tumors consisting of both lipocytes and smooth muscle differentiation have been recognized for many years, but LMS with liposarcomatous differentiation (component) is extremely rare. Two cases of pure uterine liposarcomas (LS) have been reported,3,4 and only 1 case of LS in combination with a LMS.5 There has been another case of LS, found as part of carcinosarcoma,6 and 3 cases of primary LS of the uterine cervix.7–9

The main differential diagnosis of lipoleiomyosarcoma includes pure LMS with degenerative changes, pure LS, atypical (symplastic) leiomyoma (LM), and mixed mullerian tumor with heterologous elements.

Pure LMS with degenerative changes is composed of a homogeneous population of atypical spindle-shaped cells without lipoblasts and without the typical vascular pattern of LS. Pure liposarcomatous nodules resemble nodules of lipoleiomyosarcoma at the gross level. However, histologic examination with immunopositive staining for actin, desmin, and caldesmon helps to prove the smooth muscle differentiation in this tumor. Atypical (symplastic) LM may exhibit moderate to severe cytoplasmic atypia with multinucleated tumor giant cells ("bizarre" or "symplastic" cells), but tumors with marked nuclear atypia were classified as LMS only if they had more than 5 mitoses per 10 high-power fields. The average result of MIB-1 expression in LM is 4.4%.10 Also, by definition, coagulative tumor cell necrosis must be absent in LM.

A mixed müllerian tumor does not show sharply circumscribed nodules, and histologically it contains both a sarcomatous element and an epithelial element, with atypical glandular formations immunoreactive for cytokeratin.

In this particular case, like other sarcomatous uterine nodules including LMS and lipoleiomyosarcoma, the tumor resembles benign solitary leiomyoma both clinically and sonographically. However, on gross pathologic examination, large areas of necrosis were present, indicating that the tumor was probably malignant. The histologic picture confirmed the malignant nature of the tumor, which included 2 malignant components, the first, LS, and the second, LMS.

Our case is unique in that the malignant adipose neoplasm showed all the distinctive patterns of differentiation, from mature benign lipocytes without atypia to aggressive LS showing abundant multivacuolated atypical lipoblasts.

The patient received adjuvant postoperative radiotherapy. She was recovering well on her follow-up visit. There was no clinical evidence of recurrence or metastasis 2 years after the operation.

**References**


