Diffuse cavernous hemangioma is a very rare vascular tumor of the uterus. It has been reported only in some pregnant women. Only one case of cavernous hemangioma of the cervix and one case arising within the endometrium have been reported in postmenopausal women. Diffuse uterine involvement of a vascular tumor usually causes uncontrolled bleeding during surgery. The histological findings are similar to those of cavernous hemangioma found in the soft tissues. Herein, we report the case of an 81-year-old woman with a cavernous hemangioma involving the entire myometrium. This is the first reported case of diffuse cavernous hemangioma of the uterine corpus in a postmenopausal woman.

CASE REPORT

The patient was an 81-year-old postmenopausal woman who had shown an abdominal mass on an incidental radiography. The patient had no specific symptoms related to the abdominal mass so had not sought treatment. Five years later, the patient was admitted with lower abdominal pain. Pelvic sonography finding suggested the presence of ovarian tumor. Computed tomography (CT) revealed a huge mass (18 cm) of the myometrium with markedly necrotic change and hemorrhage. It was diagnosed as leiomyoma with degenerative change. The serum levels of cancer antigen (CA) 125 and CA 19-9 were within normal limits. The patient underwent a hysterectomy with bilateral salpingo-oophorectomy. Intra-operative bleeding was not remarkable. After the surgery, the patient received a blood transfusion due to anemia. The patient has been free from symptoms for 4 years.

Pathologic findings

Grossly, the uterus was markedly enlarged with a bulging mass in the entire posterior wall. The uterus weighed 1,717 g and measured 19.5 × 18.5 × 5.5 cm. The serosa was glistening but markedly congested and hemorrhagic. The cut surface revealed a relatively well-defined mass with numerous blood-filled slit-like spaces, occupying almost the entire thickness of the myometrium (Fig. 1).

Microscopically, the mass consisted of multiple dilated thin-and thick-walled vascular channels filled with blood clots (Fig. 2). The endothelial cell lining showed diffuse positivity on im-
munohistochemical staining for CD31 (Fig. 3). The diagnosis was a cavernous hemangioma of the uterus.

**DISCUSSION**

Vascular tumors of the uterus, including capillary, cavernous hemangiomas, arteriovenous malformation, angiomatosis, and hemangioendothelioma, are very rare lesions. Cavernous hemangioma of the uterus can be in a diffuse or localized form. Almost all reported cases of hemangioma have been limited to pregnancy. Only two cases of cavernous hemangioma in postmenopausal women have been reported. One occurred in the cervix and the other was limited within the endometrium. Diffusely involved cavernous hemangioma of the uterine myometrium has not been reported in a postmenopausal woman to date.

Vascular tumors of the uterus are generally asymptomatic and are found incidentally. These tumors are accompanied by excessive amounts of vaginal bleeding or termination of pregnancy, thus very serious clinical consequences in young women.

The cause of hemangioma of the uterus is unclear. One case of hemangioma of the cervix with focal nodular hyperplasia of the liver supported the view that uterine hemangioma is associated with exogenous hormone use that causes congenital vascular tumors. Another study reported that the presence of estrogen receptors on the endothelial cells was related to the development of hemangioma. However, estrogen receptor was not detected in our case.

The pathological examination of hysterectomy specimen is the only method to confirm the definitive diagnosis of cavernous hemangioma. Doppler ultrasound, magnetic resonance imaging, and CT may be used to detect the presence of a vascular tumor. Histologically, hemangiomas are divided into capillary and cavernous subtypes. Capillary hemangiomas are composed of small capillary vessels and are usually located in the endometrium. Cavernous hemangiomas usually consist of large, dilated, thin- and thick-walled vessels with a jumbled growth pattern.
and can be diffusely involved in the uterus. Hysterectomy has
been the most common treatment of choice to prevent uncontrolled bleeding. Occasionally, interventional embolization such
as uterine artery embolization or internal artery ligation could
be used as other therapeutic approaches in case of pregnancy.7

In brief, we report on an extremely rare case of diffuse cavernous hemangioma of the uterine myometrium, which is the first
reported case in a postmenopausal woman. Cavernous hemangioma can be misdiagnosed as some other mesenchymal tumor
with malignant change such as necrosis or hemorrhage, espe-
cially in elderly women, although it is pathologically benign.
The diagnosis of cavernous hemangioma is not generally suspi-
cious clinically because of the rarity of its incidence and absence
of specific clinical findings. The diagnosis of cavernous hemangioma should be confirmed only after careful histological exami-
nation.

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