

## Cavernous Hemangioma of the Uterus in a Postmenopausal Woman – A Case Report –

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Received: August 17, 2010  
Accepted: December 31, 2010

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Cavernous hemangioma of the uterus is an uncommon mesenchymal tumor. Most cases have been reported in young, pregnant women and the condition is very rare in a postmenopausal patient. An 81-year-old woman presented with a huge pelvic mass. Abdominal computed tomography and magnetic resonance imaging results suggested a leiomyoma with degenerative change and hemorrhage. Microscopically, large, thick-walled and variable-sized vascular channels were evident in the majority part of myometrium; the lining cells were immunohistochemically reactive for CD31. Vascular tumors of the female genital tract should be cautiously excised due to the profuse intra-operative bleeding. The pathological examination of a hysterectomy specimen is the only method to confirm the diagnosis of this tumor.

**Key Words:** Uterus; Myometrium; Cavernous hemangioma

Diffuse cavernous hemangioma is a very rare vascular tumor of the uterus. It has been reported only in some pregnant women.<sup>1,2</sup> Only one case of cavernous hemangioma of the cervix and one case arising within the endometrium have been reported in postmenopausal women.<sup>3,4</sup> 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

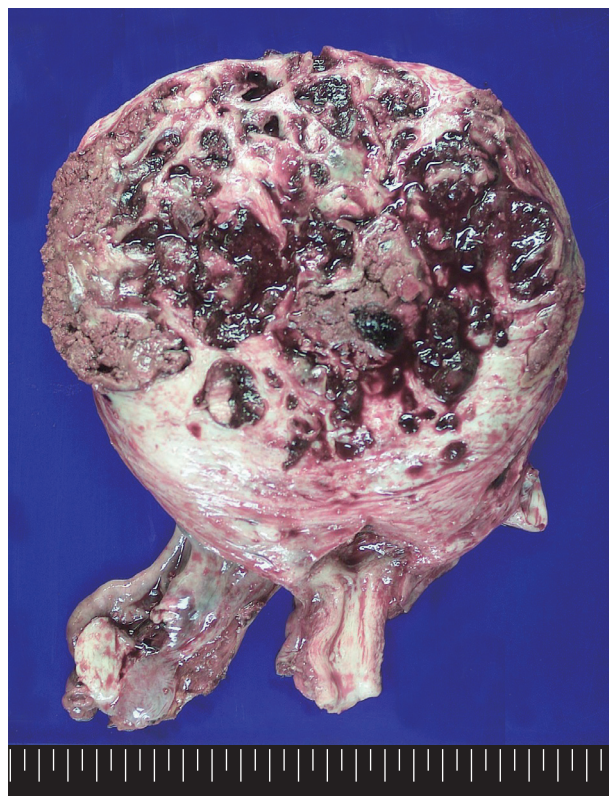
The patient was an 81-year-old postmenopausal woman who had shown an abdominal mass on an incidental radiography. The patient had no specific symptoms related to the abdominal mass so had not sought treatment. Five years later, the patient was admitted with lower abdominal pain. Pelvic sonography finding 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-



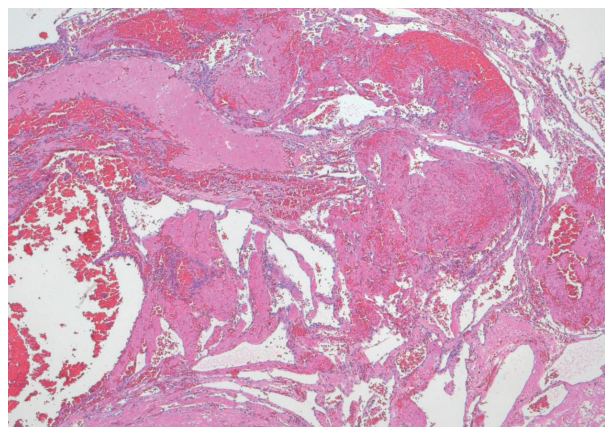
**Fig. 1.** The uterus shows numerous variably sized dilated vessels filled with blood clots and necrotic material, occupying nearly the entire myometrium.

munohistochemical staining for CD31 (Fig. 3). The diagnosis was a cavernous hemangioma of the uterus.

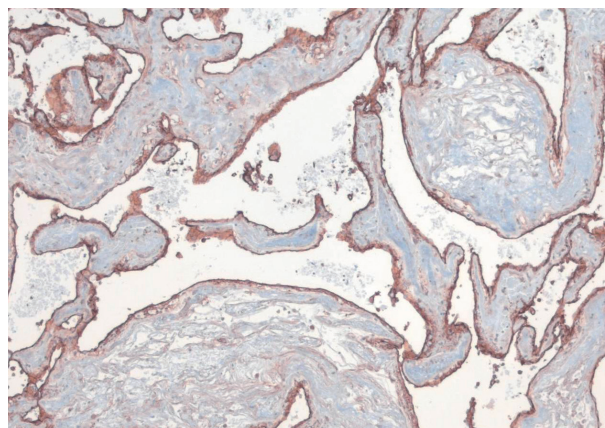
## DISCUSSION

Vascular tumors of the uterus, including capillary, cavernous hemangiomas, arteriovenous malformation, angiomas, 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.<sup>3,4</sup> One occurred in the cervix<sup>3</sup> and the other was limited within the endometrium.<sup>4</sup> 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.



**Fig. 2.** The dilated ectatic thin- and thick-walled vascular channels are densely packed with red blood cells.



**Fig. 3.** Immunohistochemical staining shows a strongly positivity for CD31.

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.<sup>5</sup> Another study reported that the presence of estrogen receptors on the endothelial cells was related to the development of hemangioma.<sup>6</sup> 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.<sup>7</sup>

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, especially in elderly women, although it is pathologically benign. The diagnosis of cavernous hemangioma is not generally suspicious 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 examination.

## REFERENCES

1. Lotgering FK, Pijpers L, van Eijck J, Wallenburg HC. Pregnancy in a patient with diffuse cavernous hemangioma of the uterus. *Am J Obstet Gynecol* 1989; 160: 628-30.
2. Weissman A, Talmon R, Jakobi P. Cavernous hemangioma of the uterus in a pregnant woman. *Obstet Gynecol* 1993; 81(5 pt 2): 825-7.
3. Virk RK, Zhong J, Lu D. Diffuse cavernous hemangioma of the uterus in a pregnant woman: report of a rare case and review of literature. *Arch Gynecol Obstet* 2009; 279: 603-5.
4. Ozyer S, Uzunlar O, Gocmen M, Bal S, Srvan L, Mollamahmutoğlu L. Cavernous hemangioma of the cervix: a rare cause of vaginal bleeding. *J Low Genit Tract Dis* 2006; 10: 107-8.
5. Padmanabhan V, Mount SL, Eltabbakh GH. Cavernous hemangioma of the cervix in association with focal nodular hyperplasia of the liver: a case report. *J Reprod Med* 2001; 46: 1067-70.
6. Reggiani Bonetti L, Boselli F, Lupi M, *et al.* Expression of estrogen receptor in hemangioma of the uterine cervix: reports of three cases and review of the literature. *Arch Gynecol Obstet* 2009; 280: 469-72.
7. Wang S, Lang JH, Zhou HM. Venous malformations of the female lower genital tract. *Eur J Obstet Gynecol Reprod Biol* 2009; 145: 205-8.