Uterine Hemangioma Presenting as an Endometrial Polyp in a Postmenopausal Woman

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ABSTRACT: Uterine hemangioma (UH) is a rare benign lesion involving the myometrium and cervix. UH often presents as an endometrial polypoid mass that mimics an endometrial polyp. UH is commonly present in women of reproductive age with menorrhagia or pregnancy-associated complications. However, reported cases in postmenopausal women present with postmenopausal bleeding. The bleeding hemangiomatous polyps are treated with hysteroscopic polypectomy. We report the case of a 65-year-old postmenopausal woman with vaginal bleeding severe enough to seek emergency medical care. Transvaginal ultrasonography showed an endometrial thickness of 10.1mm but was otherwise unremarkable. Hysteroscopic examination revealed two endometrial polyps measuring 2.0cm, and 0.5cm. Surgeons had difficulty removing these polyps using usual methods, ultimately resorting to sharp excision. Microscopic examination showed scant endometrium without hyperplasia and a polypoid lesion with numerous CD31 positive capillaries entirely filling the stroma, supporting the diagnosis of capillary hemangioma. The contributing factor to UH in our case was unclear, which opens the door for future investigation of UH in postmenopausal women.

KEYWORDS: Hemangioma, Endometrial polyp, Postmenopausal.

Introduction

Uterine hemangioma (UH) is a rare benign neoplasm of blood vessel origin.

UH was first described in 1897 in an autopsy case of a young woman who had anemia and died 24 hours after delivering twins [1].

UH is a disease in premenopausal women and can be found within the serosa, myometrium, or endometrium.

However, most cases involve the myometrium diffusely. UH can be subdivided into capillary and cavernous types, which both can be located in the uterus.

They have typically acquired lesions but can occasionally be associated with hereditary disorders such as tuberous sclerosis and hereditary hemorrhagic telangiectasia [2].

UH is often an accidental finding, but it can cause abnormal vaginal bleeding, infertility, and genital bleeding during pregnancy [3].

The diagnosis is based on a complete examination of the resected tissue [4].

Herein, we report a rare case of capillary hemangioma as an endometrial polyp presenting with severe postmenopausal vaginal bleeding.

Case Presentation

A 65-year-old obese woman, gravida 5, para 5, with a medical history of diabetes mellitus and hypertension with a last menstrual period 13 years ago, presented with severe vaginal bleeding.

She had a less severe episode of vaginal bleeding two years ago when an ultrasound performed at that time demonstrated an endometrial thickness of 11mm, and a subsequent endometrial biopsy showed benign inactive endometrial tissue.

Speculum examination revealed bleeding in the vaginal vault and cervical ostium.

The uterus was not visualized due to body habitus.

On transabdominal ultrasonographic examination, the uterus measured 87mm×49mm×49mm with a 10.1mm endometrial thickness.

Due to the nature of the vaginal bleeding, a direct endometrial examination was performed.

Hysteroscopic examination revealed two endometrial polyps measuring 2.0cm and 0.5cm, respectively.

The surgeons had difficulty removing polyps by usual methods; thus, the polypoid lesions were removed by sharp excision.

Histological examination showed a regular distribution of small-caliber vascular channels infiltrating the polypoid fragments of benign endometrial glands with no atypia.

No endometrial hyperplasia or carcinoma were identified.
The cells lining the vascular spaces were immunoreactive for the endothelial marker CD31 (Figure 1). Based on the morphology and immunohistochemical staining pattern, the diagnosis of capillary hemangioma arising within the endometrial polyp was rendered. The authors received a written informed consent regarding the publication of the material, from the patient.

**Figure 1. A: H&E 20X, benign endometrial glands with anastomosing capillaries within the stroma. B: CD31, diffuse staining of endothelial cells.**

**Discussion**

Hemangiomas are benign neoplasms with an increased number of blood vessels [5].

They can be classified into true tumors due to endothelial proliferation, or they can be vascular malformations without true proliferation but with cellular turnover [6].

Uterine hemangiomas are classified as congenital or acquired, with the latter more commonly reported.

Congenital hemangiomas are thought to be associated with hereditary diseases such as Maffucci syndrome, tuberous sclerosis, and Kasabach-Merritt syndrome.

Acquired hemangiomas are associated with physical changes or hormonal alterations, such as previous pelvic surgery, trophoblastic disease, endometrial carcinoma, or maternal diethylstilbestrol (DES) consumption [7,8].

Ultrasonography and hysteroscopy are not useful tools in the diagnosis of UH.

A definitive diagnosis requires histological examination [9].

The etiology of UH is not completely understood.

However, some authors have suggested that UH is related to hormones.

The pathogenesis is based on evidence that estrogen stimulates angiogenesis of the hemangioma via angiogenic factors such as matrix metalloproteinase 9, vascular endothelial growth factor, and nitric oxide [10].

Hemangiomas are divided into cavernous and capillary subtypes.

Both types can occur in the uterus; the capillary type is usually seen within the
endometrium, while cavernous hemangiomas involve the entire uterine wall.

Microscopically, hemangiomas have irregular vascular spaces lined with benign-looking endothelium.

These vascular spaces are small in the capillary type and large in the cavernous type.

Capillary hemangiomas usually appear on the skin, subcutaneous tissue, or mucosal surfaces, and rarely occur on internal organs such as the female genital tract [6].

Vascular proliferation and dilation can be found in other benign and malignant lesions other than hemangiomas, for example, adenomatoid tumors, lymphangiomas, hemangiopericytomas, and angiosarcomas.

Hemangiomas are benign, asymptomatic dilated vascular channels with simple endothelium lining the blood vessels.

Cells involving hemangiomas are immunoreactive for endothelial markers such as CD31, CD34, and von Willebrand factor.

This is compared to adenomatoid tumors, a mesothelial tumor composed of irregular tubular vessels composed of irregular aggregates of cells and dense stroma; lymphangiomas are clusters of thin vessels filled with clear fluid but lacking blood vessels; angiosarcomas; hemangiopericytomas are neoplasms that arise from pericytes in the walls of blood vessels; angiosarcomas are malignant proliferation of blood vessel endothelium [6,10].

These other entities are excluded due to their lack of benign appearing, organized single layer endothelium with no cellular atypia or mitotic activity.

UH are often asymptomatic and are discovered incidentally, but they can present as abnormal uterine bleeding or hemorrhage following curettage or other trauma, such as placental implantation [11,12].

UH commonly presents as uterine bleeding in premenopausal women, especially pregnant women [8,13].

Our case presented with bleeding in a postmenopausal woman.

Treatment UH involves regular monitoring with conservative treatment, including local excision, cauterization, cone biopsy, cryotherapy, uterine artery embolization, laser ablation, and systemic steroid therapy.

In refractory cases, hysterectomy may be considered [1].

Conclusions

Postmenopausal bleeding is a concern for endometrial cancer.

We present a rare case of uterine hemangioma presenting as a bleeding endometrial polyp.

Complete removal of the lesion and histopathologic examination of the entire specimen are important to avoid unnecessary procedures.

Conflict of interests

None to declare.

References

1. 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, 279:603605.
2. Shanberge, JN. Hemangioma of the uterus associated with hereditary hemorrhagic telangiectasia. Obstet Gynecol, 1994. 84(4 Pt 2):708-710.
3. Malhotra S, Sehgal A, Nijawan R. Cavernous hemangioma of the uterus. Int J Gynaecol Obstet. 1995, 51(2):159-160.
4. Weiss SW, Goldblum JR, Enzinger FM. In: Enzinger SW, Weiss JR, Eds. Soft Tissue Tumors, Mosby, 2001, St. Louis, MO.
5. Djunic I, Elezovic I, Lubicic A, Markovic O, Tomin D, Tadic J. Diffuse cavernous hemangioma of the left leg, vulva, uterus, and placenta of a pregnant woman. Int J Gynaecol Obstet, 2009, 107(3):250-251.
6. Subbarayan D, Rajesh Kanna NR, Nayar S. Capillary Hemangioma: A Concurrent Presentation in Ovary and Fallopian Tube. J Midlife Health, 2019, 10(2):93-95.
7. Johnson, C, Reid-Nicholson M, Deligdisch L, Grinblat S, Natarajan S. Capillary hemangioma of the endometrium: a case report and review of the literature. Arch Pathol Lab Med, 2005, 129(10):1326-1329.
8. Sharma JB, Chanaa C, Gupta SD, S Kumar, Roy K, Malhotra N. Cavernous hemangiomatous polyp: an unusual case of perimenopausal bleeding. Arch Gynecol Obstet, 2006, 274(4):206-208.
9. Sun ZY, Yang L, Yi CG. Possibilities and potential roles of estrogen in the pathogenesis of proliferation hemangiomas formation. Med Hypotheses, 2008, 71(2):286-292.
10. Chou WY, Change HW. Uterine Hemangioma: A Rare Pathologic Entity. Arch Pathol Lab Med, 2012, 136(5):567-571.
11. Ahern JK, Allen NH. Cervical hemangioma: a case report and review of the literature. J Reprod Med, 1978, 21(4):228-231.
12. Weissman A, Talmon R., Jakobi P. Cavernous hemangioma of the uterus in a pregnant woman. Obstet Gynecol, 1993, 81(5 (Pt 2)):825-827.
13. Smith PP, O'Connor S, Gupta J, Clark TJ. Recurrent postmenopausal bleeding: a prospective cohort study. J Minim Invasive Gynecol, 2014, 21(5):799-803.

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