

Diagnostic value of hysteroscopy in abnormal uterine bleeding

David Engelberg DMD MD CCFP FCFP Elena Pankratieva MD Iryna Liauchonak MD

Endometrial stromal sarcoma (ESS) is a rare malignant tumour of the uterus that accounts for 0.2% of all uterine malignancies.¹ A proper preoperative diagnosis is difficult and in most cases the diagnosis is confirmed after hysterectomy for presumed benign disease. A high degree of suspicion is difficult to maintain, as ESS occurs in relatively young women. Conversely, abnormal uterine bleeding (AUB) is common and affects up to 30% of women throughout their reproductive lifetimes.²

We describe the case of a 47-year-old woman who developed recurrent menorrhagia. On pathologic investigation and surgical treatment she was diagnosed with high-grade ESS. This case serves as a reminder to family physicians of the importance of developing a broad differential diagnosis when managing women with AUB that should always include life-threatening malignancies such as uterine malignant neoplasms.

Case

A 47-year-old previously healthy woman who did not smoke and who was the mother of 1 child presented to a family physician with recurrent menorrhagia. She

had a history of uterine polyp resection more than 10 years ago. Her main concern was persistent AUB for the past 15 months, specifically heavy menstrual bleeding with intermittent vaginal spotting.

Findings of the speculum examination were unremarkable. Findings of a visual inspection of the external genitalia, vagina, and cervix were normal. Bimanual palpation revealed the uterus was of normal size. There were no adnexal masses.

A pelvic and transvaginal ultrasonogram revealed a uterus of normal size with a mildly heterogeneous echotexture, and a normal cervix and ovaries with small follicles. In the posterior body of the uterus there was a hypoechoic mass measuring 15.8×15.9×14.7 mm. The endometrium was 4.0 mm thick in the mid phase of the menstrual cycle. A nonshadowing echogenic mass in the canal with a prominent fundal subendometrial feeding vessel measured 35.3×19.3×9.7 mm. The uterus had myometrial changes suggestive of early adenomyosis and a small mural fibroid in the posterior body. The large echogenic mass in the fundal endometrium was highly suggestive of a polyp (**Figure 1**).

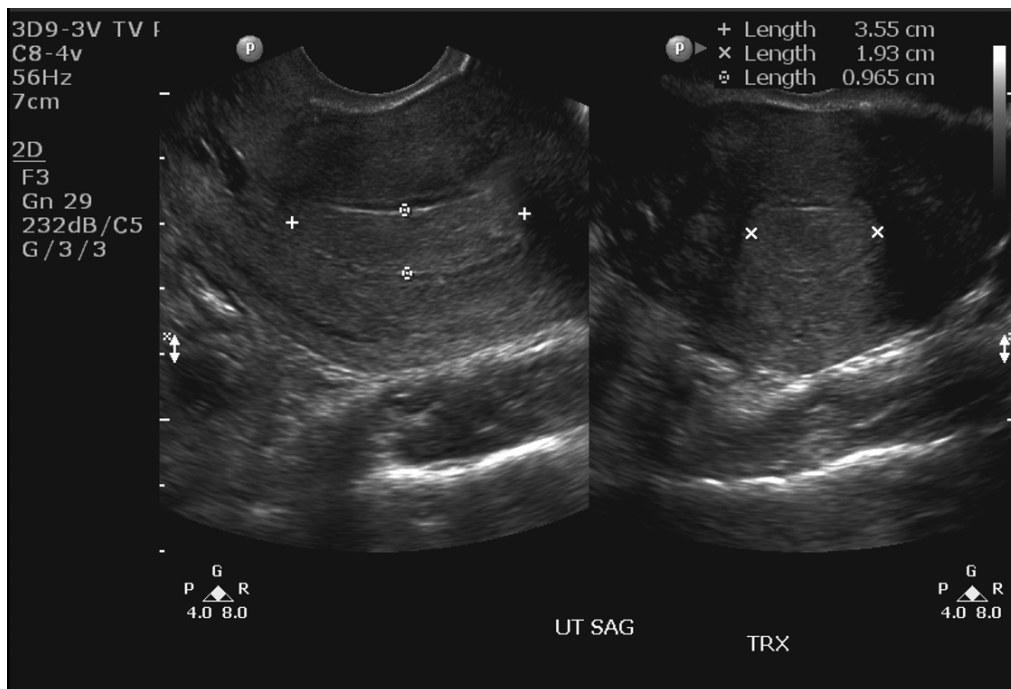
Editor's key points

- ▶ Abnormal uterine bleeding affects up to 30% of women of reproductive age. Patients usually present first to their family physicians, who can do most of the diagnostic workup and management. The differential diagnosis includes endometrial polyp, uterine fibroid, endometriosis, endometrial hyperplasia, endometrial carcinoma, uterine sarcoma, and bleeding disorders.
- ▶ Although endometrial sampling can be done in the family practice setting and it detects more than 90% of endometrial cancers, hysteroscopy-directed sampling is recommended when a focal lesion is found on ultrasound. Dilation and curettage is no longer the standard of care for the initial assessment of the endometrium. In contrast to carcinomas, hysteroscopy and curettage do not always result in diagnosis of uterine sarcomas and often lead to incorrect diagnoses.
- ▶ A high level of clinical suspicion should be maintained, and if on histologic investigation an endometrial stromal lesion is suspected it must be surgically treated in a timely fashion.

Points de repère du rédacteur

- ▶ Les saignements utérins anormaux touchent jusqu'à 30 % des femmes en âge de procréer. Les patientes consultent habituellement en premier leur médecin de famille qui peut procéder à une bonne part des investigations diagnostiques et à la prise en charge. Parmi les diagnostics différentiels figurent un polype endométrial, un fibroïde utérin, l'endométriose, une hyperplasie endométriale, un carcinome endométrial, un sarcome utérin et des troubles hémorragiques.
- ▶ Un prélèvement endométrial peut être exécuté en milieu de pratique familiale et permet de détecter plus de 90 % des cancers de l'endomètre, mais il est recommandé d'y procéder à l'aide d'un hystéroscope lorsqu'une lésion focale est observée à l'échographie. La dilatation et le curetage ne sont plus le standard de soins pour l'évaluation initiale de l'endomètre. Contrairement aux carcinomes, les sarcomes utérins ne sont pas nécessairement diagnostiqués par l'hystéroscopie et le curetage, d'où de fréquents diagnostics erronés.
- ▶ Il faut toujours faire preuve d'un fort degré de suspicion clinique et si, à l'investigation histologique, on soupçonne une tumeur stromale endométriale, elle doit être traitée chirurgicalement en temps opportun.

Figure 1. A normal-sized uterus with myometrial changes suggestive of early adenomyosis and a small mural fibroid in the posterior body: The large echogenic mass in the fundal endometrium was highly suggestive of a polyp.



The patient was referred to a gynecologist and later underwent a hysteroscopic polypectomy with dilation and curettage. The pathology report stated the findings were “suggestive of an endometrial stromal lesion or low-grade endometrial stromal sarcoma.” Based on these findings the patient was referred for further diagnostic procedures and treatment. She underwent total abdominal hysterectomy and bilateral salpingo-oophorectomy. Postoperative pathologic examination revealed a high-grade ESS. There was involvement of the uterine body and invasion into the inner half of the myometrium, and microscopic involvement of the cervical stroma and positive lymphovascular space invasion.

Staging investigations did not show any evidence of distant metastatic disease. No adjuvant systemic treatment was recommended, as there are no data to support the use of chemotherapy or hormonal therapy for this particular type of cancer. Radiation therapy was also not recommended even though it might decrease the rate of local recurrence, as it would have no effect on long-term survival.³

The patient was given a 40% to 50% chance of recurrence either locally or distally. The management plan at that point was to monitor her carefully and then tailor any salvage treatment to the nature of the recurrence.

Discussion

Abnormal uterine bleeding affects up to 30% of women of reproductive age. Patients usually present first to their family physicians, who can do most of the diagnostic workup and management. A thorough history and physical examination will often indicate the cause of AUB and direct the need for further investigation and treatment.² The differential diagnosis includes endometrial polyp, uterine fibroleiomyoma, endometriosis, endometrial hyperplasia, endometrial carcinoma, uterine sarcoma, and bleeding disorders.

Ultrasound is currently the primary diagnostic method for evaluation of women with AUB. The challenge in diagnosing uterine sarcoma is that there are no specific diagnostic features for ESS with any imaging technique (ultrasound, computed tomography, or magnetic resonance imaging).⁴

In Canada, 6.5% of all new cases of cancer in women are neoplasms of the body of the uterus.⁵ Most uterine cancers occur in the endometrium. Incidence rates of uterine cancer in Canada have increased by 2.6% per year since 2004.⁵ This is consistent with reports from the United States.⁶

Sarcomas of the uterus constitute only 3% to 5% of all uterine tumours. These cancers arise from the stroma of the endometrium (ie, ESS) or the myometrium. They might look and feel like benign leiomyomas; diagnosis is characteristically made at the time


of hysterectomy. Women with uterine sarcoma usually present with heavy prolonged bleeding or postmenopausal bleeding and a uterine mass.⁷

Although endometrial sampling can be done in the family practice setting and it detects more than 90% of endometrial cancers, hysteroscopy-directed sampling is recommended when a focal lesion is found on ultrasound.⁸ Dilation and curettage is no longer the standard of care for the initial assessment of the endometrium. It is a blind procedure, with sampling errors and risks of complications similar to hysteroscopy.² Unfortunately, in contrast to carcinomas, hysteroscopy and curettage do not always result in diagnosis of uterine sarcomas and often lead to incorrect diagnoses.

Statistically, the diagnosis of high-grade ESS is often only made when the disease has reached an advanced stage. In general, these tumours become symptomatic through pathologic bleeding, sometimes in combination with an enlarged uterus and accompanying symptoms. The expected outcome of high-grade ESS is poor, with a mean overall survival of 1 to 2 years.⁹

Conclusion

As family physicians are often the first point of contact for patients with AUB, they should be familiar with differential diagnoses and investigate it properly to identify women who require evaluation for endometrial carcinoma or other uterine malignancies. A high level of clinical suspicion should be maintained, and if on histologic

investigation an endometrial stromal lesion is suspected it must be surgically treated in a timely fashion. 

Dr Engelberg is Medical Co-Director and a family physician at MCI Medical Clinics Inc in Toronto, Ont, and Lecturer in the Department of Family and Community Medicine in the Faculty of Medicine at the University of Toronto. **Dr Pankratieva** is a family physician practising in Toronto. **Dr Liauchonak** is a student in the Graduate Diploma and Professional Master in Medical Sciences program in the School of Medicine at Queen's University in Kingston, Ont.

Competing interests

None declared

Correspondence

Dr David Engelberg; e-mail david.engelberg@utoronto.ca

References

1. Puliyaath G, Nair MK. Endometrial stromal sarcoma: a review of the literature. *Indian J Med Paediatr Oncol* 2012;33(1):1-6.
2. Society of Obstetricians and Gynaecologists of Canada. Abnormal uterine bleeding in pre-menopausal women. *J Obstet Gynaecol Can* 2013;35(5 Suppl 1):S1-25.
3. Barney B, Tward JD, Skidmore T, Gaffney DK. Does radiotherapy or lymphadenectomy improve survival in endometrial stromal sarcoma? *Int J Gynecol Cancer* 2009;19(7):1232-8.
4. Denschlag D, Thiel FC, Achermann S, Harter P, Juhasz-Boess I, Mallmann P, et al. Sarcoma of the uterus. Guideline of the DGGG. *Geburtshilfe Frauenheilkd* 2015;75(10):1028-42. Erratum in: *Geburtshilfe Frauenheilkd* 2015;75(10):e3.
5. Canadian Cancer Society Advisory Committee on Cancer Statistics. *Canadian cancer statistics 2015. Special topic: prediction of the future burden of cancer in Canada*. Toronto, ON: Canadian Cancer Society; 2015. p. 16-8.
6. Ehemann C, Henley SJ, Ballard-Barbash R, Jacobs EJ, Schymura MJ, Noone AM, et al. Annual Report to the Nation on the status of cancer, 1975-2008, featuring cancers associated with excess weight and lack of sufficient physical activity. *Cancer* 2012;118(9):2338-66. Epub 2012 Mar 28.
7. Nordal RR, Thoresen SO. Uterine sarcomas in Norway 1956-1992: incidence, survival and mortality. *Eur J Cancer* 1997;33(6):907-11.
8. Patil SG, Bhute SB, Inamdar SA, Acharya NS, Shrivastava DS. Role of diagnostic hysteroscopy in abnormal uterine bleeding and its histopathologic correlation. *J Gynecol Endosc Surg* 2009;1(2):98-104.
9. Tanner EJ, Garg K, Leita MM Jr, Soslow RA, Hensley ML. High grade undifferentiated uterine sarcoma: surgery, treatment, and survival outcomes. *Gynecol Oncol* 2012;127(1):27-31. Epub 2012 Jun 26.