

Recurrent severe or irregular vaginal bleeding as an indication of arteriovenous malformations

Keywords: arteriovenous malformations, vascularization, anechoic tubular

Introduction

An arteriovenous malformation (AVM) is a vascular shortcut of organs arterial and venous circulation which leads to increased vascularization.¹ The true incidence of AV malformations is not known since the condition is rarely seen. Until 2005 <100 cases have been documented in the literature.² Although quite rare, uterine AVM is a potentially life-threatening condition.³ AVM can be both congenital and acquired. In most cases, acquired malformations in the uterus emerge from previous uterine surgery including curettage, cesarean delivery and myomectomy.¹ However, the patient of this report did not have any uterine surgery, but a standard medical evacuation for abortion.

Minor vaginal bleeding after both medical and surgical evacuation for abortion is relatively common. However, persistent or heavy bleeding should be considered as a potential cause of post-termination vaginal bleeding and request further investigation.

Case report

In January 2018, a 25-year-old woman had a legal medical abortion in GA 13+4 at Department of Gynecology and Obstetrics at Kolding Hospital in the Region of Southern Denmark. Since the abortion she had intermittent heavy vaginal bleeding. Transvaginal ultrasound found what could be retained products of conception from the former abortion. The patient was referred to the department of gynecology and obstetrics at Kolding Hospital. Due to misunderstandings the patient never showed up and the case was closed.

In August 2018 the patient was referred to the emergency department complaining of persistent severe vaginal bleeding. Transvaginal ultrasound showed retained products of conception. At appointment for hysteroscopy one week later, she explained that she two days earlier had a significant bleeding including what seemed to be remaining tissue. There had been no bleeding since that episode and she was feeling well and was not interested in further investigation.

In October 2018 the patient was referred to the department of gynecology and obstetrics with a new severe vaginal bleeding. During the hysteroscopy procedure, a biopsy of the suspected area was taken, which resulted in instantly bleeding. Hgb was 5,9 mmol/l prior to procedure and 5,1 mmol/l afterwards.

Pelvic ultrasound revealed a mixed hypoechoic and anechoic tubular or cystic-appearing mass in the subendometrium and inner portion of the myometrium, showing both venous and arterial flow on color Doppler, suggestive of a uterine AVM. Pelvic MRI-angio confirmed numerous serpiginous flow voids (areas of signal loss suggestive of high-velocity vascular flow) within the anterior myometrium and extending into the endometrium, as well as the parametrial tissue. Medical treatment with tranexamic acid (Cyklonova) and gestagen (Provera) was started and the patient was referred to Department of Gynecology and Obstetrics at Odense University Hospital. Since the

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patient do not wish to have any more children, embolization of uterine arteries has been chosen as treatment.

Discussion

This case should bring to awareness that recurrent severe or irregular vaginal bleeding can be a sign of AVM. Former studies showed, that awareness should rise specially after uterine surgery.¹ However, this case calls attention to think that former medical evacuation for abortion is also a risk factor for AVM.

New studies show that transvaginal ultrasound with doppler flow is an applicable diagnostic method of AVM in the uterus.^{3,4} Until now, the golden standard towards diagnosing AV malformations has been MR angiography.⁴ Transvaginal ultrasound may help to diagnose AVM at an earlier point, diminish misinterpretations, and at bottom line reduce events of severe bleeding (Figure 1).

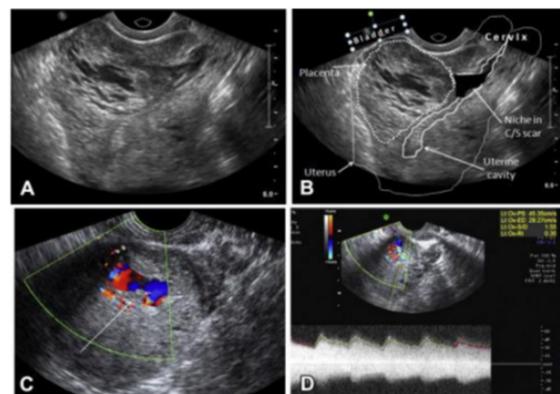


Figure 1 Four ultrasound images of a case in which a curettage for elective termination of what was diagnosed as an intrauterine pregnancy and in which an enhanced myometrial vascularity/arteriovenous malformation developed.

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Conflicts of interest

The author declares there is no conflict of interest.

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