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CASE REPORT

UTERINE ARTERIVENOUS MALFORMATION

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Abstract

Arteriovenous malformations of the uterus are rare and cause sudden, massive vaginal bleeding. Although rare, arteriovenous malformations can occur after a cesarean section. Patients with uterine arteriovenous malformations commonly manifest vaginal bleeding disorders, ranging from menorrhagia to life-threatening bleeding episodes. Management of AVM is by medication, embolization and surgery depending on the patient's condition. Herewe report the case of a 28 year old patient with a diagnosis of Late HPP ec Susp. AVM uteruson P4A0L4 post SCTPP + moderate anemia. The patient had a history of caesarean section 2 weeks ago, and the patient was admitted for recurrent bleeding. Diagnostic examination found an AVM on surgical scars on the uterus and performed angiography and embolization.The diagnosis of uterine arteriovenous malformation should be considered in patients with secondary postpartum hemorrhage

Keywords: *teirn Arteriovenous Malformation*

INTRODUCTION

Uterine arteriovenous malformation (AVM) is a rare case and causes sudden and massive vaginal bleeding. with less than 100 cases reported in the literature.1,2 This is a potentially life-threatening condition, as the patient may experience heavy bleeding.1 Although rare, secondary arteriovenous malformations may occur after cesarean section.3 Uterine arteriovenous malformation was first described by Dubreuil and Lowbat in 1926 with an unknown case incidence.3

As the name suggests, this disorder is an abnormal connection between the circulatory system of the uterine arteries and veins. There are two types of AVM, acquired AVM which usually forms after an event such as endometrial curettage and congenital AVM which shows abnormal vascular development. AVMs generally manifest through a spectrum of vaginal bleeding disorders, ranging from menorrhagia to life-threatening bleeding episodes.4

AVM can be treated with modalities including uterine artery embolization, hysterectomy, medical therapy (especially hormones), and expectant management. AVMs are diagnosed by ultrasound using Doppler, and further investigated by computed tomography (CT) angiography, CT with vein contrast, magnetic resonance imaging or magnetic resonance angiography.5

The following is a case report of a 28-year-old patient with a diagnosis of Late HPP ec suspected uterine AVM on P4A0H4 post SCTPP from the outside + moderate anemia and embolization with angiography

CASE REPORT

A 28-year-old woman came to the emergency room at M. Djamil Hospital with the main complaint of massive bleeding from the vagina since 10 hours ago and was fresh red with 8-9x changes of pads. Hip pain radiating to the groin is denied. Denied discharge of tissue or flesh from the vagina. On May 10 2022, the patient underwent SC surgery at a private hospital, May 19, with complaints of massive bleeding in the vagina, and received 2 PRC transfusions. On May 24, the patient was referred to M. Djamil Hospital with the main complaint of massive bleeding from the vagina. The patient was admitted and received 5 PRC transfusions. There was no previous history of DM, hypertension and kidney disease. There is no history of hereditary diseases, infectious diseases and mental illness in the family.

Physical examination of the patient, general state of moderate illness, composmentis consciousness, BP 100/71 mmHg, pulse rate 98 beats/minute, respiratory rate 28 beats/minute, temperature 36.5 C, oxygen saturation 97%. Obesity nutritional status with 23.1 kg/m2. On abdominal examination, there was no distended appearance, cicatricial (+)

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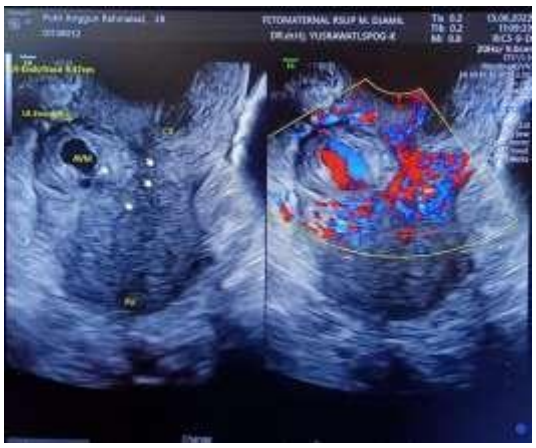
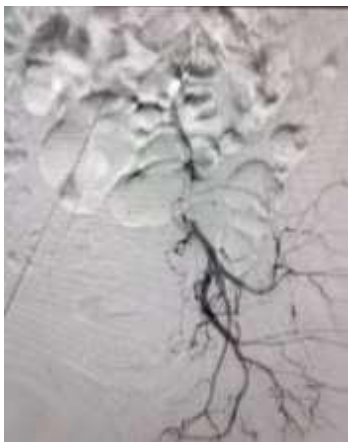
pfannenstiel, no abdominal tenderness and discharge, tympanic sound, normal intestinal peristalsis. On examination the genitalia, vagina and urethra were normal, active bleeding from the vagina. On speculative examination, flux was found in the vagina and accumulation of blood in the posterior fornix and on the portion, flux was found, blood was coming out of the cervical canal and the OUE was closed.



Picture 1. Usual and Doppler ultrasound in patients before angiography and embolization

Routine blood laboratory results on May 11 were normal. Repeat routine blood tests (13/5/2022), found decreased Hb (Hb 8.8 mg/dl), while other blood components were within normal limits. On the Doppler ultrasound examination as shown in Figure 1, vascular bizzare was found in the surgical scar measuring 2.54x2.90 cm with the impression of suspected AVM. The patient was diagnosed with Late HPP ec Susp uterine AVM on P4A0H4 post SCTPP from outside the puerperium day 32 with moderate anemia and was planned to be performed angiography with embolization by a vascular surgeon.



Picture 2. Angiography with Embolization

After the angiography procedure as shown in Figure 2 and embolization is performed, the patient is planned to have a routine blood test 6 hours later and repeat ultrasound examination after embolization as shown in Figure 3.

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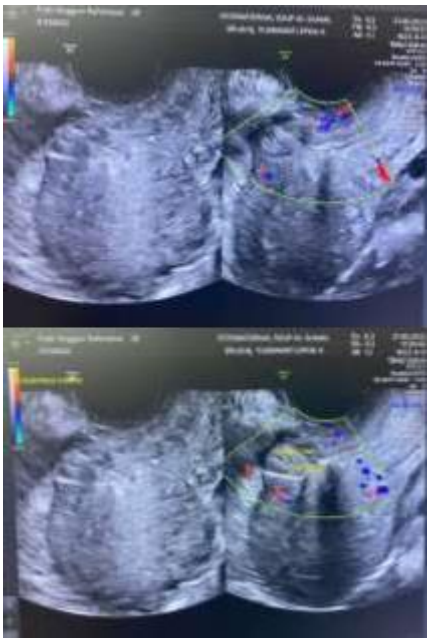

Picture 3. Doppler ultrasound after angiography and embolization

DISCUSSION

The diagnosis of uterine arteriovenous malformation was established from anamnesis with complaints of recurrent and profuse postpartum hemorrhage without pain. From the results of the ultrasound, it was found that there was a hypoechoic appearance with a size of 2.54x2.90 cm in the post SC incision area. Doppler blood flow examination was carried out, a hypoechoic picture was obtained from vascularization (AVM).

Although angiography is the gold standard in diagnosing arteriovenous malformations, the use of color Doppler ultrasound also provides a good noninvasive examination method.1,6 On ultrasound images, arteriovenous malformations will give a hypoechoic image between the myometrial and endometrial layers. With the use of color Doppler ultrasound, a typical appearance will appear in the hypoechoic area with multiple/turbulent blood flow patterns (shown by alternating red and blue colors).7,8 Ultrasound findings in this patient were proven by the presence of blood vessels that opened into the uterine cavity in the former incision area.

In Acquired AVM, the malformation develops from trauma to the uterus, such as cesarean section, curettage and placement of an intrauterine device (IUD). The possibility of AVM occurring in this case was due to the failure to secure the angle of the uterine wound during cesarean section.1,8

This patient underwent angiography and embolization therapy to correct the malformation. Digital Subtraction Angiography (DSA) is essential for treatment planning and provides an unparalleled level of detail in identifying and localizing arteriovenous malformations.9 Uterine artery embolization can be performed in patients who are hemodynamically

unstable and require blood transfusions.10 Embolization is preferred over open surgery as the initial approach because it is minimally invasive and preserves fertility. Transcatheter artery embolization has been shown in various studies to be very successful in treating vaginal and lower intestinal bleeding caused by UAVM.10

CONCLUSION

Uterine arteriovenous malformation is a life-threatening disorder because it presents with complaints of painless bleeding. This case report reported a patient with uterine arteriovenous malformation which was established through clinical findings and supporting examinations and ruled out other possible causes of postpartum hemorrhage. This very rare case is a challenge and a diagnostic dilemma for clinicians who are ready to take immediate steps and will largely determine the patient's prognosis. From this case embolization of the AVM on the surgical scar turned out to be quite effective as one of the AVM treatments and the patient did not need to undergo surgery such as a hysterectomy.

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