Arteriovenous Malformation of Uterine Artery: A Rare Cause of Secondary Postpartum Haemorrhage
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ABSTRACT
Vascular malformations (VMs) of uterine artery are extremely rare and they occur in congenital or acquired forms. Here, we discuss a case of secondary postpartum haemorrhage (PPH) diagnosed as arteriovenous malformation (AVM) of uterine artery on Doppler and angiography. Patient has single kidney. Successfully managed by hysterectomy.

Keywords: Arteriovenous malformation, Vascular malformation, Hysterectomy, Postpartum haemorrhage, Hysterectomy

INTRODUCTION
Postpartum haemorrhage (PPH) occurs in 4% of vaginal deliveries and 6% after caesarean section. Secondary PPH is rare, brief and self-limiting with the most common cause being retained placenta.[1] A vascular malformation (VM) without an aneurysm true or pseudo is an uncommon cause of secondary PPH. [2,3] Doppler ultrasound can aid in the assessment, but definitive diagnosis is only made on angiography. [5] We present a case of secondary PPH diagnosed as arteriovenous malformation (AVM) of uterine artery with failed embolisation and successful hysterectomy with internal iliac artery ligation.

CASE REPORT
A 30-year-old woman who is P2L1D1A1 was referred with history of bleeding per vaginum on portrayal day 21 after VBAC (vaginal delivery after caesarean section).

Prior to transfer, she was admitted twice in different hospitals.

On postnatal day 10, the patient had her first episode of bleeding. She was in hypovolemic shock and 3 units of packed cells were transfused. Ultrasound revealed a heterogeneous 2 cm lesion in the uterine cavity. Dilatation and curettage was attempted but abandoned due heavy bout of bleeding.[4]. She was then referred to a higher centre where ultrasound Doppler revealed an AVM of uterine artery and CT angiography showed a vascular lesion of 4.7 cm in the posterior wall of body of uterus and cervix with a central nidus supplied by multiple small tortuous corkscrew type of arteries arising from gonadal arteries. Uterine artery embolisation was performed which was uneventful. On the 5th day of embolisation, the patient had her second bout of bleeding. She was then referred to our hospital.

On admission, the patient was in hypovolemic shock with a haemoglobin 5 gm/dL. The patient was revived and 3 units of packed cells were transfused. On evaluation, renal function tests, liver function tests and coagulation profile were normal. Serum beta hcg Human chorionic gonadotropin was negative. A high vaginal swab was negative. But, empirically, piperacillin with tazobactum was started. A Doppler revealed AVM[figure1]. A repeat CT angiography had findings

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similar to prior embolisation with same size 4.5 cm. The patient was counselled for re-embolisation, but the patient refused and insisted to have a hysterectomy. Ureteric stunning was done prior to surgery. Vascular surgeon’s assistance was obtained for internal iliac artery ligation. Hysterectomy was performed.

**DISCUSSION**

Secondary PPH has received little attention; probably, because of its low incidence and lower maternal mortality. Common causes include retained products, subinvolution, and less commonly endometritis. Vascular malformations, AV fistula, pseudo aneurysms and acquired AV malformation are rare but an important cause of secondary PPH. They are usually acquired following uterine curettage, caesarean section, hysterectomy and traumatic vaginal delivery but are rarely congenital.


Our patient had AVM in the posterior wall of the body of uterus and cervix measuring 4.5 cm draining into gonadal veins. Uterine artery embolisation though has a success rate of more than 90% but failed in this case as repeat angiography had similar findings.[7,8,9,10] Finally, hysterectomy was performed with control over internal iliac and common iliac artery.

Though with the advent of embolisation hysterectomy could be avoided, but it is the final resort when embolisation fails. AVM should be considered in patients with unexplained secondary PPH.

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REFERENCES


