

INTRODUCTION

- Uterine arteriovenous malformations (AVM)→ abnormal, non-functional connection between uterine arteries and veins
- Typically present with bleeding per vaginum
- In asymptomatic women→ may resolve with expectant management without any medical/surgical intervention
- We report case of a woman who presented after medical abortion with uterine AVM with life threatening bleeding requiring radiological intervention

CASE PROFILE

- Mrs. K, 31 years old, P2L2A1, previous spontaneous vaginal deliveries→ referred with complaints of heavy menstrual bleeding with passage of clots for 1 week following a brief episode of spotting per vaginum
- Underwent medical abortion with Misoprostol at 9 weeks of gestation 2 months ago
- No history of curettage following abortion
- On examination, she was pale, with symptoms and signs of hypovolemic shock. Abdomen –Soft; Pelvic examination-unremarkable except for bulky uterus with ongoing bleeding per vaginum

Investigations:

- Haemoglobin 5 g%
- Platelets, bleeding time, clotting time coagulation profile → within normal limits
- β-hCG was less than 5 IU/mL

Resuscitation-

- Hemodynamic stabilisation with crystalloids
- Transfusion of two packed cell units

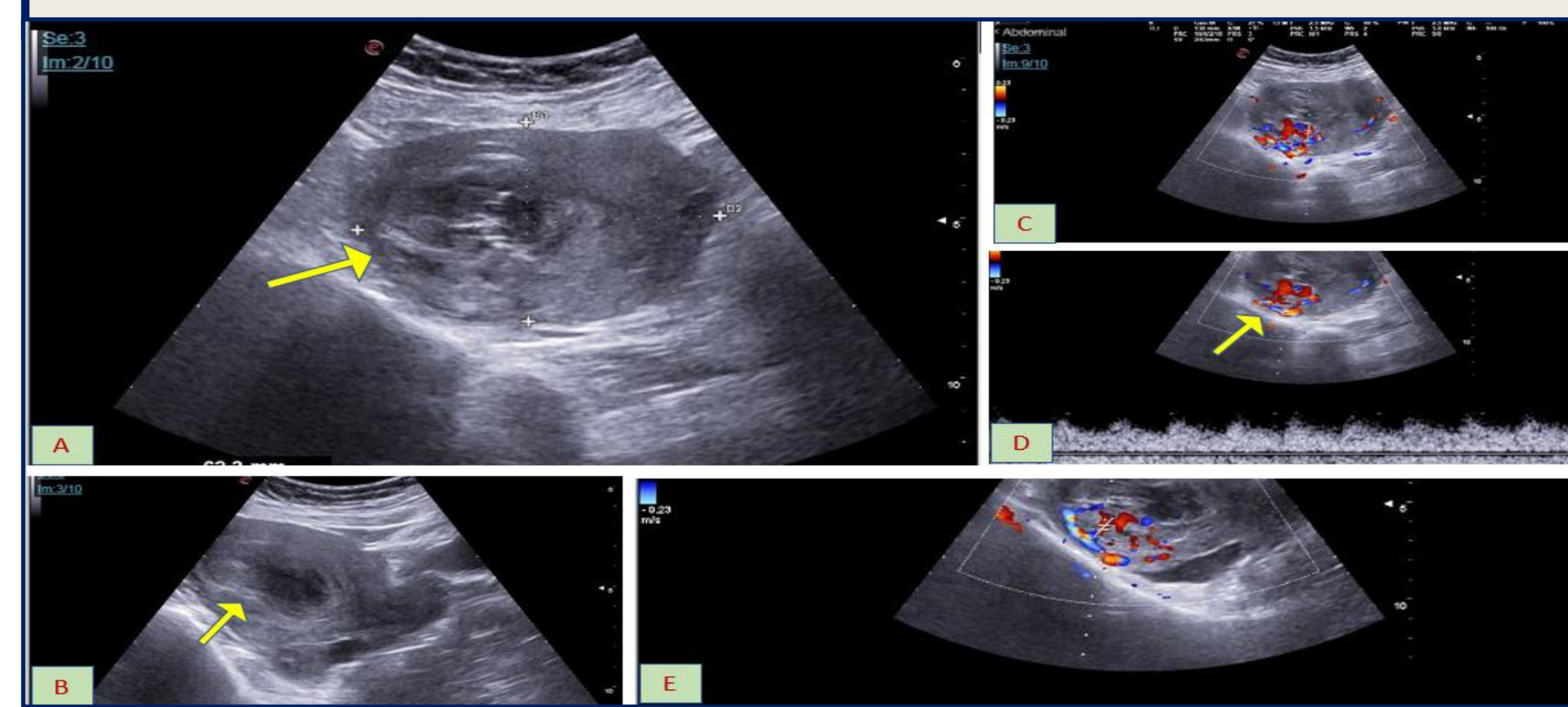
Imaging-

Transvaginal sonography revealed a normal size anteverted uterus, with retained products of conception adjacent to a **focal echogenic mass of size 5.8 cm X 4.6 cm in the posterior myometrium**, with **vascularity into and outward from the lesion** suggestive of an AVM. The **peak systolic velocity of flow within the mass was 42.3cm/s** with a **Resistance Index of 0.39**

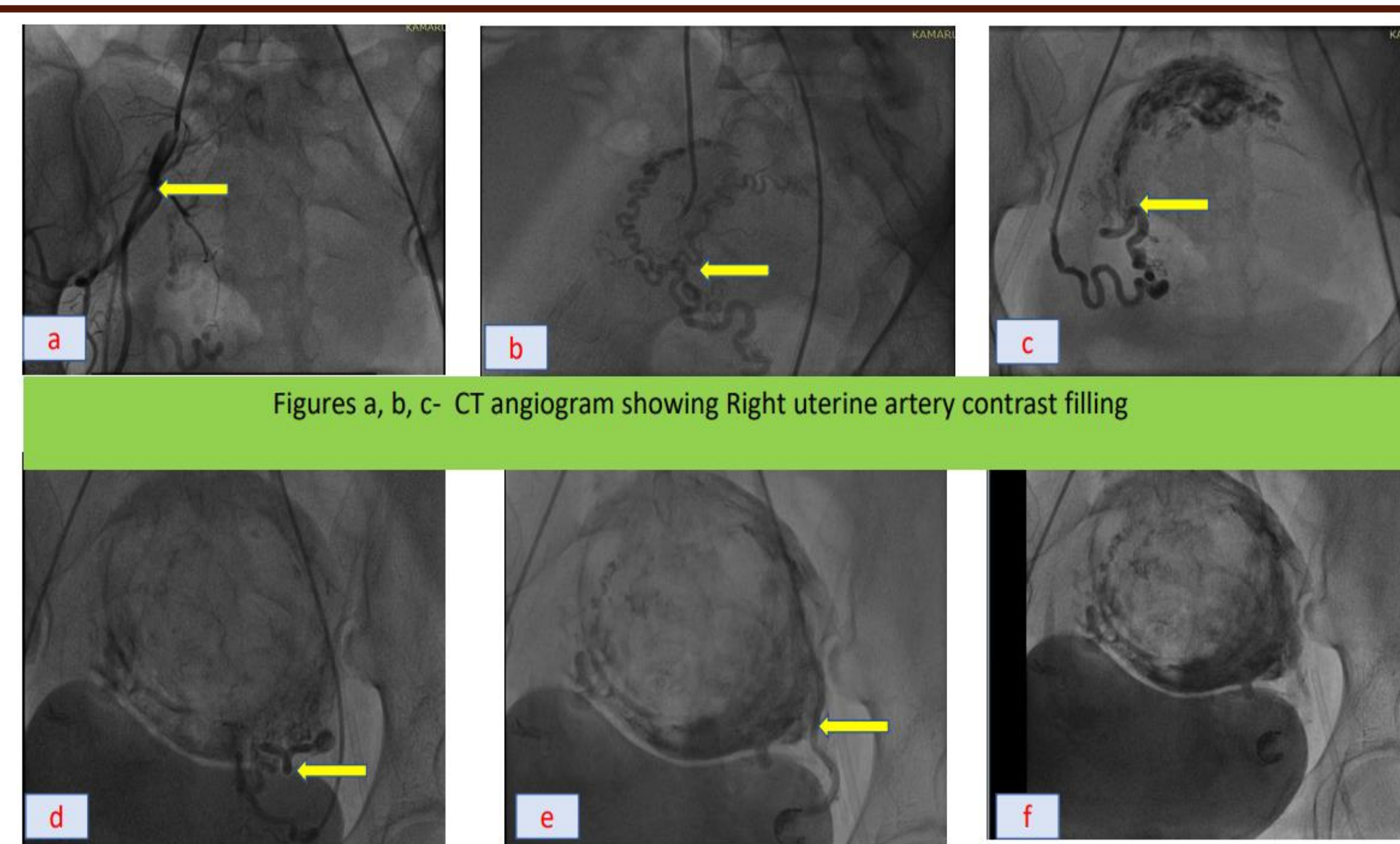
The same was confirmed by CT angiography

FURTHER MANAGEMENT

- CT angiography showed dilated bilateral uterine arteries, tortuous vessels in posterior myometrium with arterial phase enhancement of the right uterine vein
- **Bilateral emergency UAE was performed using 5-7 μ Polyvinyl Alcohol (PVA) particles till complete occlusion of bilateral feeding vessels**
- Withstood the procedure and recovered well
- On follow up- Expelled the product of **conception --- 1 week later spontaneously, HPE confirmed**; Resumed menstruation with slightly reduced flow



A-E : Image Panel showing AVM with retained products of conception



Figures d,e- CT angiogram showing Left uterine artery contrast filling; Figure f- Post bilateral uterine artery embolisation

DISCUSSION

Arteriovenous malformations (AVMs)-Arise when there is a direct connection between the artery and venous system without any intervening capillaries. Variable incidence ranging from 0.6% to 4.5 %¹

Aetiology: **Congenital**- Due to abnormal vascular connections due to a defect during embryologic differentiation

Acquired- Secondary to previous uterine trauma such as curettage, caesarean delivery, infection, malignancy or even after an uneventful pregnancy¹. These may represent subinvolution of the placental bed in which the placental bed vessels fail to obliterate in the absence of retained placental tissue after pregnancy cessation³

• **Diagnosis** :Transvaginal ultrasound (TVS), non-specific and difficult to differentiate from retained products and GTD

• Colour doppler helps to augment the accuracy of TVS to diagnose uterine AVM

• **Angiography is considered to be the gold standard for diagnosis**¹

Management depends on the

- Hemodynamic status
- Size and site of the lesion
- Degree of bleeding
- Age of the patient
- Desire for future fertility
- Type of available medical expertise

Treatment modalities

- Uterotonics
- Combined contraceptive pill
- Gonadotropin releasing hormone agonist
- Balloon tamponade
- Surgical removal of AVM
- Laparoscopic bipolar coagulation
- Uterine artery embolization (unilateral or bilateral)
- Hysterectomy^{1,2}

Message:

- A high index of suspicion
- Prompt resuscitation
- Appropriate and timely investigation
- Most feasible treatment is essential for avoiding a catastrophic outcome in the presence of life threatening bleed

CONCLUSION: Uterine AVM should be suspected in a woman in child-bearing age with heavy bleeding per vaginum following childbirth/ abortion

Attempts of curettage may prove to be fatal in such scenarios

A high index of suspicion can help in an early diagnosis and referral for seeking appropriate interventional assistance

Bibliography

1. Abutu OG, Biswas B, Tamizian O, Tirlapur AS. A Case of Uterine Arteriovenous Malformation with Retained Products of Conception, Presenting as Secondary Post-Partum Haemorrhage. Obstet Gynecol Cases Rev.2020; 7:160. doi.org/10.23937/2377-9004/1410160
2. Hammad R, Nausheen S, Malik M. A Case Series on Uterine Arteriovenous Malformations: A Life-Threatening Emergency in Young Women. Cureus.2020; 12(7): e9410. DOI 10.7759/cureus.9410
3. Timmerman D, et al. Vascular malformations in the uterus: ultrasonographic diagnosis and conservative management. Eur J Obstet Gynecol Reprod Biol.2000;92:171–178