OPEN ACCESS

Scholars International Journal of Obstetrics and Gynecology

Abbreviated Key Title: Sch Int J Obstet Gynec
ISSN 2616-8235 (Print) |ISSN 2617-3492 (Online)
Scholars Middle East Publishers, Dubai, United Arab Emirates
Journal homepage: https://saudijournals.com

Case Report

Bleeding from Uterine Arteriovenous Malformation – A Life-Threatening Complication of a Surgical Aabortion

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DOI: https://doi.org/10.36348/sijog.2025.v08i05.001 | **Received:** 18.03.2025 | **Accepted:** 25.04.2025 | **Published:** 05.05.2025

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Abstract

Uterine arteriovenous malformation (UVM) is a very rare abnormality resulting from anomalous arterio-venous connections in the uterus. Although rare, it causes potential life-threatening vaginal bleeding postpartum or following uterine curettage or abortions. Only a few cases have been reported in literature (less than 100). However, the incidence is assumed to be increasing due to increased availability of ultrasound scan and colour doppler studies for better detection. We present a case of a 39-year-old Para 3 woman with three previous caesarean sections (CS) who presented to our facility with vaginal bleeding associated tiredness, heart racing, lightheadedness of four days duration following surgical evacuation for missed abortion at nine weeks gestation.

Keywords: Arteriovenous Malformation, Transvaginal Ultrasound, Uterus, Uterine Artery.

INTRODUCTION

Conventionally, mild bleeding post-abortion has been well established as a normal part of the recovery process, notwithstanding if the abortion was done using either surgical or medical methods.[1] However, excessive bleeding post abortion is very rare and can be as a result of retained product of conception, uterine perforation, abnormal placentation, atony, uterine artery pseudoaneurysm, uterine arteriovenous malformations, sepsis, undiagnosed ectopic or heterotopic pregnancy, endometritis, coagulopathies, and cervical or vaginal canal laceration [1, 2].

Based on the findings of different studies, there is no consensus on what constitutes significant haemorrhage postabortion [3, 4]. Bleeding of more than 250 mL to greater than 500 mL has been used in some studies to define significant haemorrhage, while others define it as any bleeding leading to haemodynamic instability in a woman or requiring hospitalization post abortion and or requiring blood transfusion [3, 4]. Despite that, most authors agree that post abortal bleeding is a significant cause of maternal mortality, especially in developing countries with restrictive abortion laws and high incidence of unsafe abortion [3, 4]. Along those lines, it becomes even worrisome in a country such as Nigeria with a maternal mortality rate of 1,047 deaths per 100,000 live births, equivalent of lifetime risk of 1 in 22 for a Nigerian woman to die during pregnancy, childbirth, or postpartum in contrast to many developed countries with lifetime risk of 1 in 4900 [5, 6].

Uterine arteriovenous malformation (UVM) is a very rare abnormality resulting from anomalous arterio-venous connections in the uterus [7]. Although rare, it causes potential life-threatening vaginal bleeding postpartum or following uterine curettage or abortions [5, 6]. UVM can be congenital or acquired. The acquired cases are usually secondary to pelvic surgeries, uterine procedures such as caesarean sections, uterine curettage

or manual vacuum aspiration [6, 7]. UVM can be diagnosed using pelvic ultrasound with color Doppler and spectral Doppler analysis, pelvic angiography, computed tomography angiography and magnetic resonance angiography [5-7]. Pelvic angiography has been shown to be the gold standard method in diagnosis. Different methods of treatment have been reported in literature, including norethisterone and other hormonal therapy to induce pseudo amenorrhoea, transcatheter embolization, and sub-total hysterectomy [7].

CASE PRESENTATION

A 39-year-old Para 3+2 (3A) with 3 previous CS presented to our facility with vaginal bleeding associated tiredness, heart racing, lightheadedness of four days duration. Prior to presentation, she had manual vacuum aspiration for missed miscarriage of a nine weeks' gestation in a private hospital. The procedure was complicated with profuse vaginal bleeding during which she was administered parenteral tranexamic acid and was counselled to present to nearest gynaecological emergency if bleeding persists.

At presentation, she was lethargic, pale with a pulse rate of 135 beats per minute, Blood pressure was 100/50mmHg. She was quickly resuscitated with crystalloids. An urgent bedside ultrasound scan showed no evidence of retained product of conception. Her full blood results revealed a haemoglobin of 6g/dl (packed cell volume of 18.3%), platelet count of 400, White blood cell of 7 X 10^6 and marginally elevated quantitative beta human chorionic, which became normal on serial sample examination. We made a diagnosis of severe anaemia. She was transfused with four pints of blood, however the bleeding persisted.

A repeat transvaginal ultrasound scan with doppler by a radiologist (figure 1 and 2) showed evidence of uterine arteriovenous malformation with no evidence of retained products of conception. She was counselled on the findings of the ultrasound scan, and she opted for sub-total hysterectomy as she has completed her family size.

She did well clinically and was later discharged home in a stable clinical state with haemoglobin of 10.2g/dl. She was administered haematinics to be seen in an outpatient gynaecology clinic in one week.

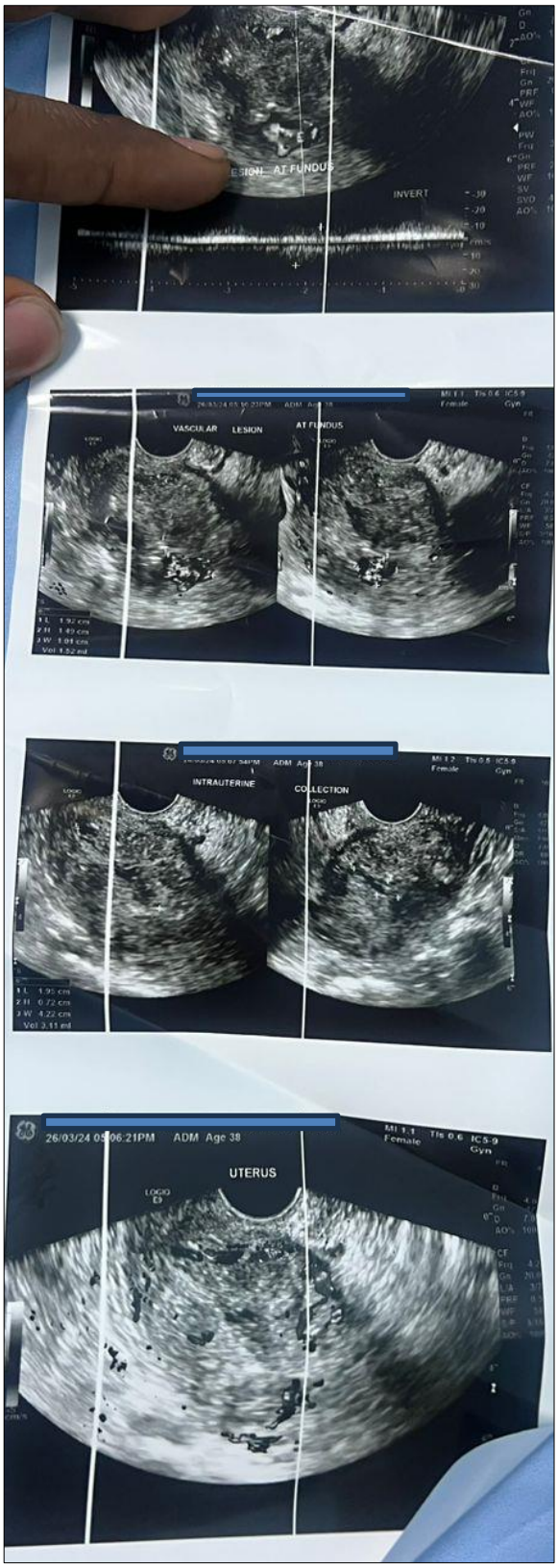

Figure 1

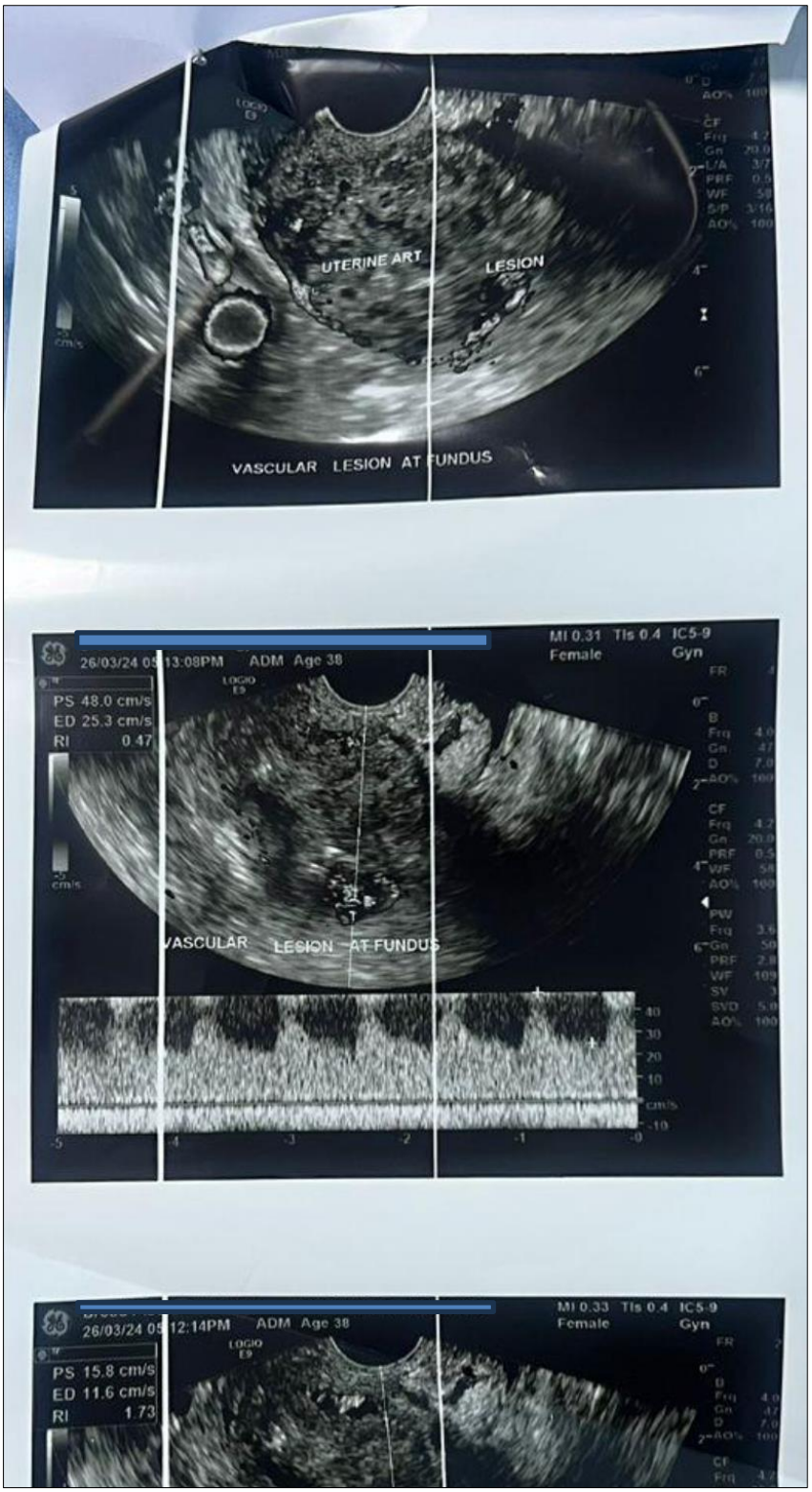

Figure 2

DISCUSSION

Congenital or acquired UVM are a very rare cause of vaginal bleeding in gynaecology. However, its potential to cause life-threatening haemorrhage postpartum or post uterine procedures is the major reason for concern. The index case most likely developed UVM as repeated uterine trauma from caesarean sections.

In the past UVM was diagnosed during laparotomy or by pathological examination of post hysterectomy specimen. [8]. However, recent advances in technology have made diagnosis easier using ultrasound scan with Doppler studies (as was done in the index case) or by using other imaging modalities such as pelvic angiography, CT or MRI angiography. Colour or

spectral doppler ultrasonography helps in differentiating between UVM from haemangiomas or gestational trophoblastic diseases [8].

Until now, hysterectomy has been the most treatment option for women with UVM. On the contrary, most gynaecology units now consider the haemodynamic state of the woman, her desire for future childbearing, and expertise available. In stable patients, hormonal treatment to induce pseudo amenorrhoea may be considered. However, in acute cases, blood transfusion and stabilizing the woman takes precedence, following which other options such as hysterectomy or transcatheter ablation can be considered. Our patient opted for sub-total hysterectomy having completed her family size.

In conclusion, acquired and congenital forms of UVM are very rare causes of vaginal bleeding postpartum or postabortion, although the number of new cases tends to be increasing due to both increased availability of improved diagnostic methods and increased incidence of uterine surgeries in recent times.

Conflict of Interest: None to declare

Funding: None

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