
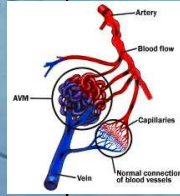

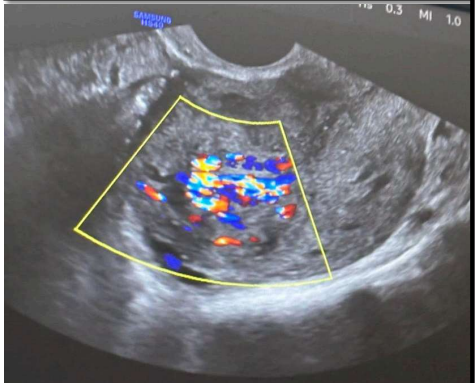


Poster Number: EP - 336
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Title:A Rare Case of Uterine Arteriovenous Malformation Masquerading As Retained Products of Conceptus



INTRODUCTION		CASE DETAILS	
<p>•An arteriovenous malformation (AVM) is an abnormal connection between arteries and veins, bypassing capillaries.</p> <p>•AVMs can occur anywhere in the body; uterine AVMs are rare, with 100~ cases reported in literature.</p> <p>•This case involves an atypical uterine AVM presentation, initially resembling retained products of conception.</p> <p>•Differentiating between uterine AVM and products of conception is crucial as their management differs significantly.</p> <p>•Uterine AVM management requires specialized care.</p> <p>• Historically, the primary treatment modality for uterine AVMs was hysterectomy ,owing to the often hemodynamically unstable nature of the patients.</p> <p>• However, with advancements in interventional radiology, transcatheter vascular embolization (TCE) is a viable alternative treatment option for patients wishing to preserve fertility.</p>		<p>A 32-year-old female, para 2, living 2 with a history of two previous MTP reported with complaints of persistent spotting per vaginum with usage of 2-3 pads per day since one month and complaints of weakness gradually worsening over two weeks. On examination, her pulse was tachycardic (114 beats/minute), her blood pressure was 90/60 mm of Hg with the presence of generalized pallor. On per abdominal examination, abdomen was soft with no signs of acute abdomen. A P/S examination showed presence of bleeding from the internal os while on a bimanual P/V examination, the uterus was found to be bulky, and bilateral fornices were free and non-tender. On detailed questioning, the patient stated that she had amenorrhoea for 2 months prior to this bleeding episode and had started spotting per vaginum around 25 days back which has aggravated over the last 7 days or so. A UPT turned out to be negative. USG(A+P)- uterus was 5.4cmX5.1cmX7.3cm (mildly bulky) with heterogenous echotexture with echogenic areas measuring 2.1cm X 1.87cm X cm2.1 cm with few anechoic areas within and increased vascularity (PSV: 64 cm/sec) within the myometrium which extended into the endometrial cavity. Multiple dilated veins were seen in bilateral adnexa. This led to a differential of uterus Arteriovenous malformation (AVM) versus grade 3 retained products of conceptus (RPOC). Considering the high PSV and the type of vascular flow, the diagnosis was more inclined towards AVM.To be double sure, we tested her beta HCG level which was 36.7 mIU /ml. We performed a pelvic angiogram for better visualisation which showed hypertrophied bilateral uterine arteries and intrauterine spiral arteries with prominent uterine blush, Bilateral external iliac arteries and infrarenal abdominal aortogram was normal. In view of these findings, uterine artery embolization was decided upon.All routine pre-procedure workup was done wherein the patient was found to be severely anaemic (Hb 6.2 g/dL). Two bags of packed cells were transfused to optimise the hemoglobin to 9.6 g/dL and she was taken up for the embolization with right femoral access. Uterine artery embolization (UAE) has been proven to be a highly successful treatment modality for AVM due to the non-invasive and quick resolution of symptoms. Furthermore, it avoids the associated complications of operative interventions like hysterectomy. Superselective catheterisation on the right femoral artery was done using Progret™ microcatheter and embolization was carried out using polyvinyl (PVA) 150-250 microns particles. Postprocedural angiogram revealed near total (99%) reduction in vascularity of mass lesion. Postprocedure recovery of the patient was uneventful. Her bleeding had stopped completely.</p>	
DISCUSSION		PRE-EMBOLISATION DSA	POSTEMBOLISATION DSA
<p>According to the Mulliken and Glowaki classification, AVMs are categorized into: (i) high-flow malformations, where a high-pressure gradient allows rapid blood flow through a vessel network (nidus) connecting arteries to veins; and (ii) direct fistulous connections between arteries and veins without a nidus. Uterine AVMs are rare and can be congenital (due to abnormal vascular development) [1] or acquired (linked to surgeries or uterine conditions). They often cause severe, life-threatening bleeding and complications like hemoperitoneum and hypovolemic shock.[2] Diagnosis has shifted from laparotomy to ultrasound with color Doppler (safe and non-invasive), though digital subtraction angiography remains the gold standard.Conditions like hypervascular retained products of conception or GTD (with elevated beta HCG) may mimic AVMs .In this case, the patient had a history of taking Mifepristone and Misoprostol, prescribed without proper evaluation. Historically treated with hysterectomy,(owing to the often hemodynamically unstable nature of the patients) [2] uterine AVMs are now managed with transcatheter vascular embolization (TCE), preserving fertility,Uterine artery embolization (UAE) is effective but may slightly reduce fertility .[3] and increase the risk of abnormal placentation in future pregnancies. [4] For stable patients, alternative treatments include expectant management, hormonal therapy, methotrexate, or hysteroscopic resection (with bleeding risks).[1] UAE successfully preserved the uterus in this patient and remains the preferred treatment</p>		 	
		<div> <div>CONCLUSION</div> <p>There are no standard treatment guidelines for uterine AVMs due to their rarity, so management must be individualized based on symptoms, hemodynamic status, fertility goals, and available resources. Hysterectomy for uterine AVMs has largely taken a backseat and is reserved only for life threatening cases in relatively resource-poor areas. In most cases, UAE is the preferred treatment, being minimally invasive and fertility-preserving. In well-equipped centers, UAE is often the first-line treatment due to its simplicity and minimal adverse effects.</p> </div> <div> <div>REFERENCES</div> <ol style="list-style-type: none"> Grivell R, Reid K, Mellor A. Uterine Arteriovenous Malformations: A review of the Current Literature. <i>Obstet Gynaecol Survey.</i> 2005;60(11):761–767. D. Katke R, Domkundwar S, C. Rathod S Uterine Arterio-venous Malformation with Hemoperitoneum.JCR 2014;4:60-63 Mohan PP, Hamblin MH, Vogelzang RL. Uterine artery embolization and its effect on fertility. <i>Journal of Vascular and Interventional Radiology.</i> 2013 Jul 1;24(7):925-30. Soeda S, Kyozuka H, Suzuki S, Yasuda S, Nomura Y, Fujimori K. Uterine artery embolization for uterine arteriovenous malformation is associated with placental abnormalities in the subsequent pregnancy: two cases report. <i>Fukushima J Med Sci.</i> 2014;60(1):86–90. </div>	