

LIFE THREATENING HEMOPERITONEUM IN 20 WEEK PREGNANT WOMAN DUE TO PELVIC A-V MALFORMATION: A CASE REPORT

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Introduction

Pelvic and uterine arteriovenous malformations (AVMs) can cause abnormal and potentially life-threatening vaginal bleeding. Although they are considered relatively rare, with fewer than 150 cases reported in the literature, the true incidence of uterine AVMs may be higher. A prospective study of 959 patients found sonographically evident uterine AVMs in 5.2% of women after dilatation and curettage and in 0.22% of women after delivery; however, only one (0.1%) AVM in the study population was deemed clinically significant. Pelvic AVMs and uterine AVMs are distinct entities with different etiologies, presentation, and management.

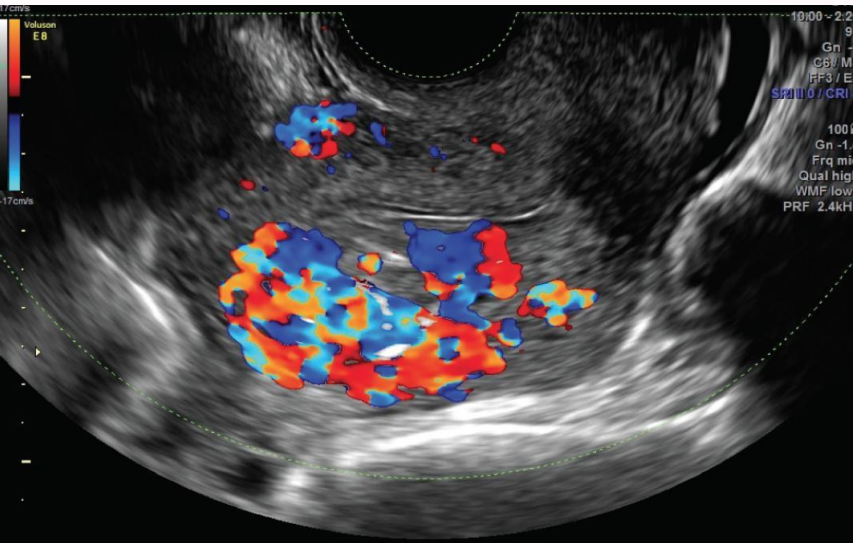


Figure 1. Sagittal color Doppler ultrasound demonstrating markedly increased flow with aliasing, primarily within the myometrium.



Figure 2. Contrast MRI showing Pelvic AVM in left internal iliac vessels.

Case Description

A 28-year-old woman G1P0 at 20 weeks gestation presented with sudden severe lower abdominal pain, dizziness, and faintness IN ED Resus. She had not sought any antenatal care, had one scan done from a private clinic which showed normal intrauterine pregnancy. There were no medical records available to relate to previous well being. She however looked a fit and healthy young woman, no history of previous surgeries. On presentation in ED, she was in shock. On examination, she was pale and confused. Unable to speak in full sentences due to abdominal pain. Airway and breathing intact. Heart rate of 130 b/m, BP 85/63mmHg, respiratory rate of 24 br/min and temperature 35.6. Abdominal examination revealed diffuse abdominal tenderness, no palpable masses, however unable to palpate uterus due to tenderness. Percussion notes were dull through all quadrants of abdomen. Point-of-care ultrasound showed free fluid in the abdomen with correctly sited alive intrauterine pregnancy. Initial resuscitation was done, and patient was treated as major hemorrhage from a ruptured appendix. An informed consent was taken for Cat 1 laparotomy. Per operatively, 1.5 liters of hemoperitoneum was drained, appendix was normal. An active bleeder identified as ruptured vascular malformation involving the peri-uterine uterine vessels on left broad ligament. A part of torn tissue was resected and vessels were ligated. Haemostasias ensured and surgery was concluded. The patient was transferred under obstetric care, multiple transfusions were done to replace the blood loss. An anomaly scan was done while stay in hospital which was normal. Follow up in antenatal clinic was arranged with 4 weekly growth scans to ensure fetal well being. The rest of the pregnancy continued as uneventful, patient had spontaneous onset of labor at 36 weeks and delivered vaginally in hospital.

The histopathology of the resected tissue diagnosed AV malformation of involved vessels. Postnatal follow up were arranged with CT scan and contrast MRI to locate the area of AVM. The follow up MRI identified pelvic AVM of left iliac vessels. The case was discussed in local MDT with gynecologist, radiologist and interventional radiologist and a final decision for embolization was taken taking into consideration patient's age and desire for future fertility. The patient had IR guided embolization under interventional radiology. Follow up imaging showed resolution of AVM.

Discussion

Uterine and pelvic AVMs are distinct and should be diagnosed as separate entities.

Pelvic AVMs are usually congenital and can be extended to involve the uterus, they should be distinguished from uterine AVMs. These developmental anomalies are thought to result from abnormal endothelial cell proliferation and delayed vascular remodeling during fetal angiogenesis.² Acquired pelvic arteriovenous communications may also arise from trauma or surgery, although these are typically referred to as fistulas and are often simpler, with fewer arteriovenous communications than in congenital malformations.

Uterine AVMs are usually acquired and occur following a dilation and curettage, other uterine procedures, GTDs and uterine or cervical cancers.

INVESTIGATIONS:

1. Grey scale Doppler
2. Colour Doppler
3. Spectral Doppler Analysis
4. Angiography
5. MRI

TREATMENT OPTIONS:

1. Medical management: Danazol, GnRH, MPA followed by NET
2. Transcatheter arterial embolization
3. Balloon occluded retrograde transvenous obliteration.
4. Surgical management with internal iliac or uterine artery ligations or hysterectomy.

Conclusion

Uterine and pelvic AVMs are a rare cause of excessive and potentially catastrophic vaginal bleeding; however, asymptomatic or mildly symptomatic uterine AVMs may be more common than previously thought as detection increases with the use of routine imaging. Uterine AVMs are more typically acquired, whereas pelvic AVMs are classically congenital, with posttraumatic pelvic arteriovenous communications more commonly termed fistulas. Although rare, should be included in the differential diagnosis of hemoperitoneum during pregnancy. Early recognition and management can improve outcomes.

Emergency laparotomy done for suspected ruptured appendix, per operative diagnosis of ruptured broad ligament vessels made. Ligation and partial excision done which led to final diagnosis.



Pregnancy continues, healthy baby delivered vaginally at 36 weeks. Postnatal MRI identified internal iliac AVM. MDT advised artery embolization.



Post embolization imaging revealed normal vessels. Patient discharged from care.

Conclusion

1. Sridhar D, Vogelzang RL. Diagnosis and treatment of uterine and pelvic arteriovenous malformations. Endovasc Today. 2018 Jan;17(1):73.
2. Annaiah TK, Sreenivasan SK. Uterine arteriovenous malformations: clinical implications. *The Obstetrician & Gynaecologist* 2015; 17: 243–50
3. Yazawa H, Soeda S, Hiraiwa T, Takaiwa M, Hasegawa-Endo S, Kojima M, Fujimori K. Prospective evaluation of the incidence of uterine vascular malformations developing after abortion or delivery. J Minim Invasive Gynecol. 2013 May-Jun;20(3):360-7. doi: 10.1016/j.jmig.2012.12.008. Epub 2013 Jan 23. PMID: 23352580.