

A Case Report on Uterine Arteriovenous Malformation

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Abstract: Uterine Arteriovenous malformation is a rare condition not commonly encountered in day - to - day practice but potentially life threatening [2]. This case report describes a 30 - year - old, post abortal woman who presented to us at the OPD with profuse bleeding per vaginum. Transabdominal USG showed heterogenous mass in the endometrium with serpiginous structures in color doppler. MRI confirmed the presence of Arteriovenous malformation in the posterior myometrium and bilateral parametrium.

Keywords: Arteriovenous malformation, post abortal, MRI, endometrium

1. Introduction

Uterine Arteriovenous malformations although rare are potentially life threatening. It contributes to about 1% - 2% of all genital and intraperitoneal haemorrhage and is usually diagnosed in women with unexplained vaginal bleeding at child - bearing age [9]. The etiology may be congenital or acquired [10]. Acquired uterine AV malformations are associated with injury to the endometrium, such as pregnancy, uterine curettage [1]. Although rare, cervical or endometrial carcinoma, infection, gestational trophoblastic disease, and exposure to diethylstilbesterol [5] may also be implicated in the etiology. Doppler ultrasound is a non - invasive method for diagnosing the condition. Angiography remains the gold standard for diagnosis. In women belonging to the child bearing age group, conservative management or embolization is preferred.

2. Case Report

Mrs. X, 33yrs Para 1 Living 1 Abortion 1, previous LSCS, presented to our OPD with complaints of profuse bleeding per vaginum for 2 days, associated with passage of clots. Two months prior, the patient underwent medical termination of pregnancy for missed abortion which was medically managed.

She is a known case of Type 2 Diabetes mellitus on Insulin. On examination, she was found to be pale, tachycardic, tachypneic with a normal systemic examination.

On Per speculum examination: Cervix appeared healthy, profuse bleeding through os noted

Laboratory investigations showed a hemoglobin of 5g% and hematocrit of 22%. Beta - Human chorionic gonadotropin level was found to be 56.6 mIU/mL.

The patient was managed medically with 2 Packed red blood cells transfusion and started on IV antibiotics.

Once the patient was symptomatically stable, a transabdominal ultrasound of the pelvis was done which showed a heterogenous mass within the endometrium with an indistinct endo - myometrial junction (Figure 'a' and 'b'). On color doppler, multiple serpiginous structures were noted in the bilateral parametrium. To further confirm the diagnosis, MRI pelvis was done which showed focal areas of GRE within the endometrial cavity extending into the posterior myometrium and multiple dilated blood vessels in the bilateral parametrium.

A diagnosis of arteriovenous malformation was made. The patient improved with medical management consisting of Tranexamic acid and was later started on Oral Contraceptive Pills. Serial beta Human Chorionic Gonadotropin levels were monitored and a decreasing trend was noted. The level was found to be within normal range by 6 weeks.



(a)



(b)

5. Discussion

Arteriovenous malformations refer to the abnormal connections between arteries and veins without a capillary bed, which are fragile and prone to bleed.

Uterine AV malformation may have various clinical presentations ranging from asymptomatic to life threatening symptoms. The most common presentation is seen reproductive age women with a history of uterine procedures with profuse bleeding per vaginum, hemodynamically unstable as seen in this case report.

The availability of non - invasive investigations such as color doppler ultrasound [9], MRI, has enhanced the diagnosis of arteriovenous malformations [4]. Among the invasive procedures, angiography remains the gold standard for the diagnosis but has poor patient compliance [2]. Serum beta human chorionic gonadotropin levels are helpful in excluding gestational trophoblastic diseases since there is a drastic difference in the management [12]. Ultrasonography is the first line investigation in most studies and in our case, we found features consistent with retained products of conception.

Management of uterine AV malformations are based on the age of the women, desire for future fertility and the severity of bleeding.

Conservative approach, though not commonly used, includes the use Gonadotropin - releasing hormone agonist [5], [8]. These are associated with a high failure rate and persistent bleeding as noted in some cases. Medical treatment with combined oral contraceptive pills and progestogens is reported in some case reports for asymptomatic patients or with mild haemorrhage [11], [14].

Invasive approach includes hysteroscopic resection of the lesion, laparoscopic coagulation of uterine vessels [6], selective embolization [7], [3], [13].

Hysterectomy remains the definitive surgical treatment but is reserved for cases where other modalities have failed or are contraindicated [2].

Curettage is not a treatment modality for such cases as it worsens the haemorrhage and could be life threatening.

In this case, the patient's bleeding was controlled with the use of Tranexamic Acid and the patient was started on Oral contraceptive pills and remained stable thereafter.

6. Conclusion

A patient of the child bearing age group presenting with sudden and heavy vaginal bleeding, the possibility of uterine arteriovenous malformation should always be explored. Color or spectral Doppler ultrasonography are the best non - invasive diagnostic tools that provide the most accurate information for confirmation [3]. Treatment is to be tailored for each patient depending on their symptoms and desire for fertility.

References

- [1] Peitsidis P, Manolakos E, Tsekoura V, Kreienberg R, Schwentner L: Uterine arteriovenous malformations induced after diagnostic curettage: a systematic review. *Arch Gynecol Obstet.*2011, 284: 1137 - 1151. 10.1007/s00404 - 011 - 2067 - 7
- [2] Grivell RM, Reid KM, Mellor A: Uterine arteriovenous malformation: a review of the current literature. *Obstet Gynecol Surv.*2005, 60: 761 - 767. 10.1097/01.ogx.0000183684.67656.ba
- [3] O'Brien P, Neyatatani A, Buckley AR, Chang SD, Legiehn GM: Uterine arteriovenous malformations from diagnosis to treatment. *J Ultrasound Med.*2006, 25: 1387 - 1392. 10.7863/jum.2006.25.11.1387
- [4] Beller U, Rosen RJ, Beckman EM, Markoff G, Berenstein A: Congenital arteriovenous malformation of the female pelvis: a gynecologic perspective. *Am J Obstet Gynecol.*1988, 159: 1153 - 1160.
- [5] Calzolari S, Cozzolino M, Castellacci E, Dubini V, Farruggia A, Sisti G: Hysteroscopic management of uterine arteriovenous malformation. *JLS.*2017, 21: e2016. 10.4293/JLS.2016.00109
- [6] Wu YC, Liu WM, Yuan CC, Ng HT: Successful treatment of symptomatic arteriovenous malformation of the uterus using laparoscopic bipolar coagulation of uterine vessels. *Fertil Steril.*2001, 76: P1270 - 1271. 10.1016/S0015 - 0282 (01) 02900 - 4
- [7] Brown JV 3rd, Asrat T, Epstein HD, Oglevie S, Goldstein BH: Contemporary diagnosis and management of a uterine arteriovenous malformation. *Obstet Gynecol.*2008, 112: 467 - 470. 10.1097/AOG.0b013e3181719f7d
- [8] Takeuchi K, Yamada T, Iwasa M, Maruo T: Successful medical treatment with danazol after failed embolization of uterine arteriovenous malformation. *Obstet Gynecol.*2003, 102: 843 - 844. 10.1016/S0029 - 7844 (03) 00707 - 5
- [9] Polat P, Suma S, Kantarcy M, Alper F, Levent A: Colour Doppler ultrasound in the evaluation of uterine vascular abnormalities. *Radiographics.*2002, 22: 4753. 10.1148/radiographics.22.1.g02ja0947
- [10] Cura M, Martinez N, Cura A, Dalsaso TJ, Elmerhi F: Arteriovenous malformations of the uterus. *Acta Radiol.*2009, 50: 823 - 829. 10.1080/02841850903008792
- [11] Hammad R, Nausheen S, Malik M (July 27, 2020) A Case Series on Uterine Arteriovenous Malformations: A

- Life - Threatening Emergency in Young Women. Cureus
12 (7): e9410. doi: 10.7759/cureus.9410
- [12] Nicholson AA, Turnbull LW, Coady AM, Guthrie K:
Diagnosis and management of uterine arterio - venous
malformations. Clin Radiol.1999, 54: 265 - 269.
10.1016/S0009 - 9260 (99) 91165 - 0
- [13] Khan S, Saud S, Khan I, et al. (March 13, 2019)
Acquired Uterine Arteriovenous Malformation
Following Dilatation and Curettage Treated with
Bilateral Uterine Artery Embolization: A Case Report.
Cureus 11 (3): e4250. doi: 10.7759/cureus.4250
- [14] Onoyama I, Fukuhara M, Okuma A, Watanabe Y,
Nakamura GI: Successful pregnancy after the
noninvasive management of uterine arteriovenous
malformation. Acta Obstet Gynecol Scand.2001, 80:
1148 - 1149.10.1034/j.1600 - 0412.2001.801216. x