



A RARE CASE OF ARTERIOVENOUS MALFORMATION WITH RETAINED PRODUCT OF CONCEPTION , PRESENTING WITH SECONDARY INFERTILITY

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ABSTRACT

Uterine arteriovenous malformation (AVM) is defined as the rare occurrence of abnormal and nonfunctional connection between uterine arteries and veins. Although the patients typically present with vaginal bleeding, some patients experience may experience life -threatening massive bleeding in some circumstances. we present a case of acquired AVM in patient of reproductive age who is presented with secondary infertility . Transvaginal doppler ultrasonography is widely available, noninvasive and excellent diagnostic method.

KEYWORDS : uterine arteriovenous malformation, bleeding, balloon tamponade, color doppler

INTRODUCTION

Uterine arterio-venous malformation (AVM) is encountered rarely in clinical practice as a cause of heavy menstrual bleeding .it can be congenital or acquired (secondary to any form of insult / injury) .women usually present with heavy or irregular bleeding(life -threatening sometimes) not responding to conventional management. Diagnosis is dependent on proper history taking and radiological imaging. Imaging used to diagnose uterine AVM can be pelvic ultrasound with doppler , CT and MRI angiography.

Uterine AVM is characterized by negative beta- Hcg values and seen as multiple anechoic spaces in myometrium, with a typical spectral doppler appearance of turbulent flow with a low resistance and high velocity . intial step in the management is hemodynamic stabilization with intrauterine tamponade. Hysterectomy is the most definitive treatment, but with the emergence of minimally invasive procedures like uterine artery embolization which in addition spares the uterus for future fertility is currently chosen as a first line of management for such cases. Restoration of normal menstrual cycle and successful pregnancies have been noted after the procedure.

A considerable overlap exists between the presentation and its appearance with other conditions like sub-involution of the placental bed, retained products of conception(RPOC) and gestational trophoblastic disease. It can co- exist with incomplete miscarriage and gestational trophoblastic disease. Here comes the importance of accurate diagnosis in the management of these pathologies is suction and evacuation (S&C) which is contra- indicated in uterine AVM . Various case reports have been described on AVM diagnosed following a molar pregnancy . due to lack of good quality radiological diagnostic assessment and clinical awareness, it could be mistaken as molar pregnancy.

CASE REPORT

A 31- year – old female presented in gynecological OPD with complain of secondary infertility and pelvic pain with scanty irregular menses. As patient is para 1 abortion 1 live 1. she is having history of Lower section cesarean section 5 year back for primi breech in private hospital uttar paradesh that child healthy and with mother , then after 3 year she conceive again as result of contraceptive failure for which she had go through medical termination of pregnancy via pills around 5 weeks of pregnancy followed by no dilatation and curettage was done there after 6 months patient planning for next pregnancy again but she is not able conceive again, after MTP her menses were scanty and irregular. She came in our OPD with MRI angiography report suggestive of bulky uterus with 4x6x3cm sized heterogenous lesion seen in posterior wall, lost endometrial-myometrial interface, multiple dilated tortuous

blood vessels in posterior myometrium . s/o arteriovenous malformation of uterus. Patient had no history of any other significant medical illness or surgical intervention in past.

On examination ,the patient was afebrile, pale but hemodynamically stable . all the systemic examination were within normal limits .on per speculum examination, partially open cervical os was seen . patient had no active bleeding. On per vaginal examination uterus was bulky (6-8wks size), firm to soft in consistency, mobile and with the free fornices.

Complete investigation work-up including complete blood count (Hb -11.7g/dL, platelets- 2.34 lakhs), serum beta - human chorionic gonadotropins was 21mIU/ ml , normal coagulation profile and liver & renal function tests were carried out. Blood sample was sent for cross matching and blood was kept reserved & ready.

Imaging studies like ultrasound & MRI- pelvis with contrast were done. Transabdominal USG of the pelvis revealed 4.8x6.4x3.2 cm bulky uterus the posterior myometrium markedly enlarged and heterogenous with increased vascularity on doppler. It also shows that lower segment was thickened with ET -12mm suggestive of retained product of conception which is confirmed by trans- vaginal sonography.

Chest x ray revealed normal findings. Patient was posted for evacuation of retained products of conception ,as uterine artery embolization facility is not available in our department other methods such as balloon tamponade is kept ready. Uterine artery embolization facility was available in cardiology department therefore if needed facility to transfer the patient is kept ready.

Under local anesthesia under real time- USG guidance with the help of ovum forceps the retained products of conception from lower uterine segment evacuated with extreme care & sent for histopathology. In spite of extreme care taken the evacuation triggered active bleeding . immediately with the help of foleys catheter no 16 , inflating it with 80 cc of normal saline intrauterine tamponade was done and one pint of packed cell volume is given , then after patient become vitally stable shifted to post operative intensive care unit for 24 hour monitoring of that patient. As no active bleeding after tamponade, therefore need not to be shifted for uterine artery embolization procedure.

After 24 hr of intensive monitoring foleys catheter removed and no active bleeding were present, the patient was given good prophylactic antibiotics post evacuation. The patient was discharged on post operative day 4 on oral antibiotics and haematinics.

Histopathology of the tissue revealed degenerated and necrosed bits of decidua and few degenerate chorionic villi admixed with fibrin and blood s/o retained and degenerated product of conception . after 6 weeks , patient was followed up & it was found out that per vaginal bleeding had diminished gradually over the period of 4 wks and stopped completely thereafter. The pelvic ultrasound with color doppler confirmed diminished size of AVM with diminished vascularity

DISCUSSION

The incidence of uterine AVM is difficult to estimate as most of the cases go unnoticed . fewer than 150 cases has been reported in the literature. History of uterine curettage followed by excessive bleeding in a reproductive age women in the association with pulsatile uterus or pulsation palpable in the adnexa should raise the suspicion of uterine AVM . Acquired AVMs might arise due to embedding of venous tissue in the scar within the myometrium .

First case of uterine AVM was reported in 1926. Some argued that it is being overdiagnosed due to frequent use of USG. So the term uterine AVM is strictly used for lesion with hypervascular mass with early filling on angiography or on histopathological examination of uterus. Uterine AVM is characterized by negative beta -hcg values but when associated with early pregnancy,it can be confused with gestational trophoblastic disease . to differentiate, good clinical acumen is needed. In our case , patient present with secondary infertility and she is having history MTP pills ingestion which is not followed by dilatation and curettage then patient try to conceive but she could not and she has complain of oligomenorrhea . whenever in doubt, MRI angiography should be considered to differentiate the condition.

The retained products of conception may also give a hypervascular appearance with turbulent flow. There are reported cases in which residual placental tissue complicated the diagnosis of uterine vascular malformation . care needs to be taken before diagnosing AVMs during pregnancy and after abortion. All patients showing a hypervascular lesion in the myometrium must undergo work up for retained product.as some when patient under MTP not followed by dilatation and curettage then retained chorionic tissue with in uterus give raise to hypervascular appearances and long standing it became source of infection as well as in our case it causes infertility.

Intrauterine balloon tamponade therapy has been described in literature in case of bleeding from non – pregnant uterus too. Some authors report successful management of bleeding in case of use of only intrauterine tamponade. While some report use of it as initial measure to tide over the critical period till definitive management either in form of embolization therapy or hysterectomy is made available. Bakri balloon or foleys catheter can be used for purpose of intrauterine balloon tamponade.there is no definitive evidence that exclusive use of intrauterine balloon tamponade to arrest bleeding in case of arteriovenous malformation is effective.so, combining it with other measures to ensure efficacy ,using it as one of the first -aid measure to buy time for transfer in case of low resource setting or using it to stabilized the arrangements for definitive therapies like embolization or hysterectomy are made, is justified.

Management of uterine AVM depends upon the hemodynamic status of the women, age of the women, reproductive history and future reproductive plans and degree of bleeding. Once the diagnosis is confirmed ,clinical condition of the patient is the main determinant in choosing the treatment option. The definitive treatment hysterectomy is undertaken only if no future fertility is desired and women refused to come for follow-

up, or if she has not responded to UAE.the goal of embolization is to eradicate abnormal arterio-venous communication while maintaining uterine perfusion . it is a preferred treatment option as it is minimally invasive and fertility sparing.variety of material are available to perform the embolization like PVA particles ,gelfoam, tissue glue etc. but no difference in clinical outcome with respect to the embolic agent was found .complication like pelvic pain is quite common after the procedure which can be taken care of by simple analgesics. Serious complication include uterovaginal or rectovaginal fistulas,neurological deficits due to accidental embolization of internal iliac artery.but such complications are rarely encountered.

In our case, women had complain of secondary infertility with pelvic pain and oligomenorrhea i.e spotting per vaginum in every menses . she was desirous of future pregnancy and she was not responding to medical management. Post dilation and curettage she was relieved of her pelvic pain and periods become normal. A success rate of very few has been reported in the literature where as 92% has been reported of uterine artery embolization . In a study by yang 11 out of 14 women were successfully treated with uterine artery embolization. These 11 women had a return of normal menstrual cycle in 1-2 months and remained symptom-free during the follow-up period which ranged 1 -10yr . four of these women became pregnant 1-5 years later.

In retrospective audit at Canberra hospital, 27 women who were treated for uterine AVMs achieved 34 pregnancies and 31 live birth. Reassuringly, none of these women experienced any such complications such as severe growth restriction or adherent placenta (accreta).With increased availability and technological advancement , clinicians will be dealing more with such cases in future . clinical awareness is needed and differentiate it from other pregnancy related conditions to allow appropriate management of the condition.

CONCLUSION

To conclude , uterine AVM diagnosis is rarely encountered as a cause of abnormal uterine bleeding and can be misdiagnosed as uterine vasculature anomaly.. clinical awareness is mandatory before it can be accurately diagnosed. Due to availability of UAE ,hysterectomy is rarely required . Based on the available literature only few cases of AVM dilatation and curettage leads to restoration of normal period and fertility without much increase in pregnancy complication. Also MTP should be always followed by usg for completeness of the procedure to prevent dradeful consequences like AVM.

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