SUCCESSFUL MEDICAL MANAGEMENT OF UTERINE ARTERIOVENOUS MALFORMATION (AVM)

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INTRODUCTION

Uterine arteriovenous malformation (AVM) is defined as abnormal communication between the uterine arteries and veins[1] .This can be congenital or acquired (secondary to dilation and curettage , therapeutic abortion, cervix or endometrial cancer, trophoblastic diseases, and direct uterine trauma).[1]

It is a rare condition the reported cases in literature is about 100

AVM usually presents with abnormal uterine bleeding (AUB) menorrhagia, metrorrhagia, menometrorrhagia, or postcoital bleeding ranging from spotting to catastrophic hemorrhage requiring multiple blood transfusions and acute morbidity amongst women.

Diagnosis is based upon clinical history, high index of suspicion and diagnostic findings in Colour Doppler & sometimes require pelvic angiography when there is diagnostic dilemma.

The differential diagnosis includes- Retained Product Of Conception (RPOC) or Gestational Trophoblastic Disease (GTD)& placental site trophoblastic tumor (PSTT) & Endo malignancies.

The treatment of choice depends on the symptoms, age, desire for future fertility, localization and size of the lesion. Uterine Artery Embolization is the most commonly used treatment in symptomatic AVM & patients desiring for future fertility. There areonly few cases reported with successful medical management with GnRH agonist.

We present the case report of AVM managed successfully with continuous use of combined oral contraceptive pills.

CASE SUMMARY

A 29 years, P1L1A1 lady presented to AIIMS emergency on 8.12.19 with the history of profuse bleeding per vaginum for the last 10 days. She gave history of MTP pills consumption 6 weeks back in view overdue 10 days. Bleeding stopped in 7 days but had recurrence of heavy bleeding pervaginum after 6 weeks for which she underwent D&C. HPR was not available.

At Initial assessment general condition was satisfactory with moderate pallor &a normal size uterus with os closed & bleeding through the os+, 2 D USG did not show any RPOC with ET-5mm, & uterus 9.1x5.4 x4.8 cm, Hb was 8 gm% , TLC was WNL. She was started on hematinics & Ovaral -L (OCP) once daily for 21 days which she stopped in 10 days.

She Again presented in emergency with profuse vaginal bleeding for 2 day, started 3 days after stopping OCP. At this time she was tachypnoic, hypotension, severe pallor and on per veginal examination bleeding was ++ with os closed, uterus was bulky, anteverted, bilateral adnexa normal & non tender. UPT was negative. Her Hb was 4.5 gm%.

She was started on Injection tranexa, empirical antibiotics (ceftriaxone and metronidazole), blood transfusion and twice daily dose of OCP. She was investigated further. USG colour doppler findings showing area of increased vascularity in the anterior myometrium with multiple enlarged uterine vessels with turbulent high flow & given the differential diagnosis as RPOC, PTCC, AVM. Beta HCG was 0.256 Miu/ml (ruling out GTND), HPL < o.1 microgram (ruling out PSTT), PT INR -1, platelet count 3.5 lac/mm3 (ruling out coagulation disorder).

A diagnosis of AVM with severe anemia was made. She received a total of three units of blood transfusions. Bleeding stopped in 4 days of OCP. She was discharged from the hospital with advice to continue OCP continuously for three months & oral ferrous Ascorbate , vitamin c and calcium tab with a plan of uterine artery embolization later.

After three months follow up she did not have any bleeding episodes. Repeat Doppler showed regression of high uterine vascularity & a normal size uterus. She was advised further to continue OCPS as she was desirous of contraception as well. At 6 month follow up she is having regular menstrual cycle with no episode of any bleeding irregularity.

Image-1 Pre treatment colour doppler AVM with PSV 40.01cm/s

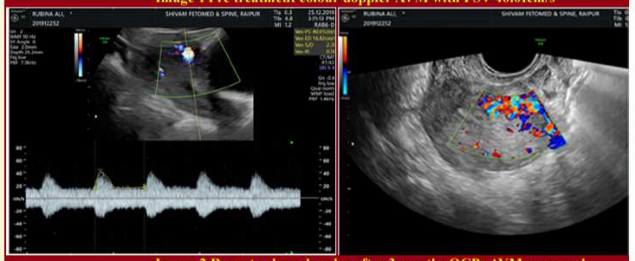

Image-2 Repeat colour doppler after 3 months OCPs AVM regressed

DISCUSSION

Uterine AVM is a rare but life threatening condition in which patient presents with vaginal bleeding that may be profuse and cause haemodynamic instability. It is important to diagnose uterine AVM correctly , in order to start appropriate management. AVM is easily diagnosed using colour doppler USG. The differential diagnosis of this condition may be RPOC or GTD & PSTT as these may also present with AUB and hypervascular appearance with turbulent flow on USG doppler. However, in this patient, undetectable beta HCG level & normal HPL, helped in ruling out these possibilities.

Based on literature search, it is observed that lower velocity flow within the AVM (PSV<52cm/s) & normal Hb are candidates for conservative management while all others usually need surgical intervention[2]. In our case, the patient had profuse vaginal bleeding and an abrupt fall in haemoglobin (4.4 gm%) & her USG doppler s/o left uterine AVM with low impedance high velocity flow (mean PSV: 40.01cm/s). Hence, after an initial haemodynamic stabilisation with 3 unit PRBC transfusion and injection tranexa, she was planned for uterine artery embolization. However she responded well with OCPs & in three months continuous intake of OCPs & the repeat doppler revealed regression of AVM.

The probable mechanism for effect of OCPs on AVM in improvement may be a mechanism similar to that of OCPs in endometriosis i.e continuous use of OCPs induces amenorrhoea, endometrial decidualisation & also enhancing apoptosis in endometrium. A long cycle regimen for continuous 90 days is recommended for treatment of endometriosis and can be used without a pill free interval for 1 year[3] 2. Continuous use of OCP prevented cyclical shedding of endometrium & ischemic necrosis of the vessels avoiding abrasions of vessels in AVM.

CONCLUSION

Uterine and pelvic AVMs are rare causes of excessive and potentially catastrophic vaginal bleeding, Endovascular management with transcatheter embolization is the mainstay of therapy in most of the cases. Growing evidence suggests that conservative management & GnRH agonist may be appropriate for many patients with uterine AVMs. However both of them are associated with own risks & cost. Successful management of uterine AVM with continous OCPs for three months as in our case, we suggest use of OCP may be an alternative for the management of uterine AVM as a cost effective, easily available as well associated lesser side effects & complications. However further research is needed to establish its efficacy.

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