

Introduction:

Cervical ectopic pregnancies are rare, occurring in less than 0.1% of ectopic pregnancies, and are defined when the embryo implants in the endocervical canal [3]. Historically, hysterectomies were performed for these types of pregnancies as dilation and curettage (D&C) or conservative management alone might lead to excessive bleeding. Currently, there is no standard of care for management

We discuss two cases of cervical ectopic pregnancies that were successfully treated with uterine artery embolization (UAEs) prior to D&C [6].

Purpose:

- Cervical ectopic pregnancies have significant risk for bleeding.
- 91% of women with cervical ectopic pregnancies present with painless vaginal bleeding and 29% of women present with hemorrhage [1-2].
- UAE is employed to control bleeding in these high-risk cases.

Materials and Methods:

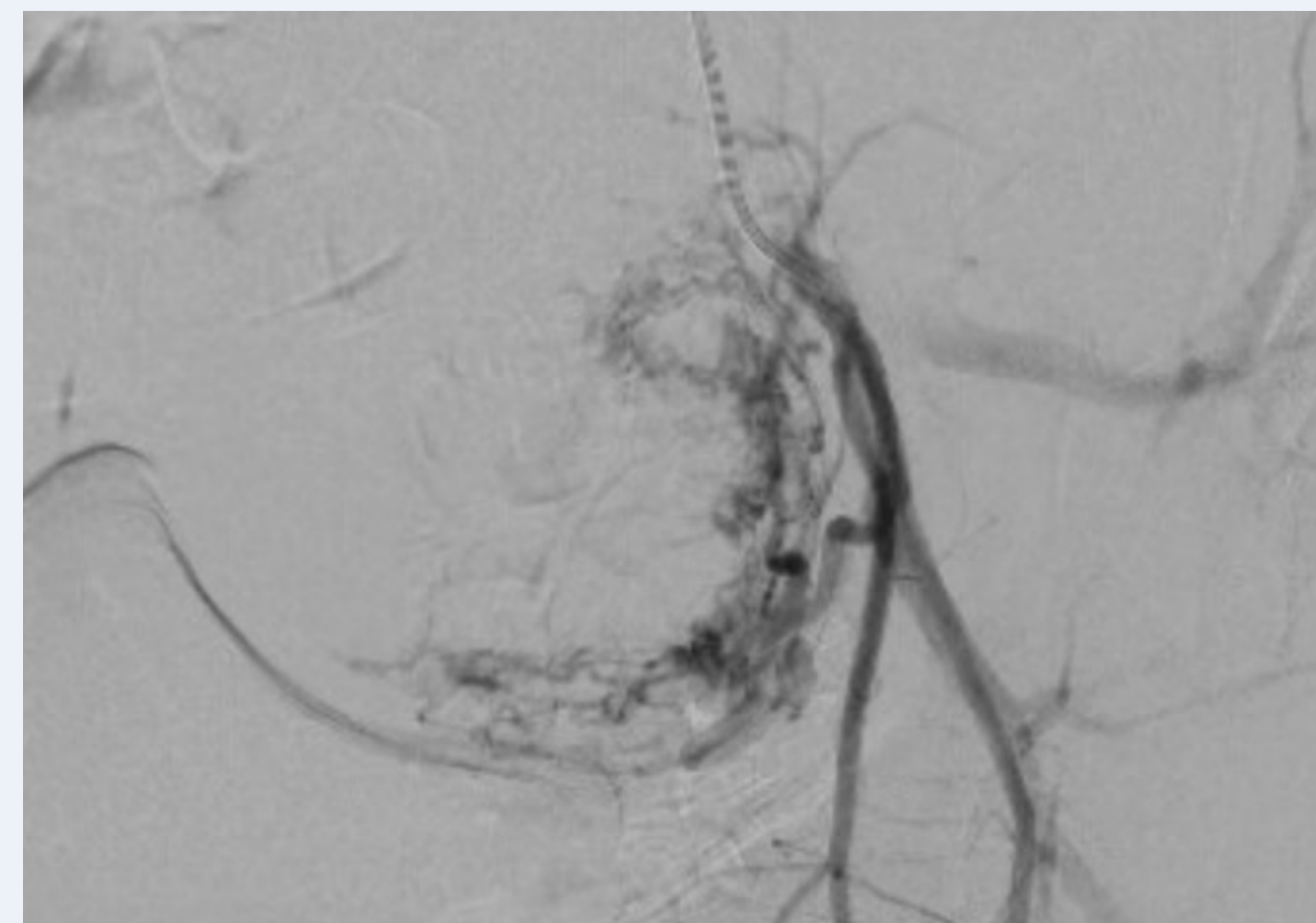
- The arterial system was accessed via the common femoral artery or left radial artery.
- An aortogram assesses for collateral supply from ovarian arteries [7].
- If no collateral supply is visualized, the uterine arteries are selected and catheters are positioned in the horizontal segment of the uterine artery within the cervicovaginal branch, allowing enough space from the origin of the artery to prevent reflux into distal arterial branches of the internal iliac.
- Embolization is then employed. In the first case, gelfoam was used for embolization while in the second case, Embosphere microspheres 500-700 μm and 900-1200 μm were utilized.
- In both cases, embolization was performed until 4 beats of stasis were achieved.
- Access site hemostasis was achieved utilizing a TR band in the setting of radial access and Angioseal (Terumo) closure device in the setting of femoral artery access.

Results:

PATIENT ONE:

The first patient is a 37-year-old G2P0010 who presented with heavy vaginal bleeding. She was diagnosed with a Cervical ectopic pregnancy at 10 weeks and 5 days. Due to severe bleeding, a UAE was recommended prior to removal of the pregnancy.

Angiogram of the right uterine artery appeared to supply a hyperemic mass of the cervix. Gelfoam was used for embolization until near complete hemostasis. The left cervicovaginal branches were also subsequently embolized with gelfoam.



Angiogram demonstrating supply to hyperemic mass of the cervix

Patient's beta-HCG was 71,645 mIU/mL on the day of UAE and balloon tamponade and fell to 25,990 mIU/mL within 48 hours. No fetal heart tones were noted at 48 hour follow up. The patient was discharged 4 days after initial procedures.

The patient followed up to the OBGYN clinic 3 weeks after discharge where she was found to have some vaginal spotting and minimal pain. Beta-HCG was 28 mIU/mL at this visit and was then measured serially until falling below 5 mIU/mL. At 5 weeks post-op the patient experienced an episode of heavy vaginal bleeding where she was treated with tranexamic acid.

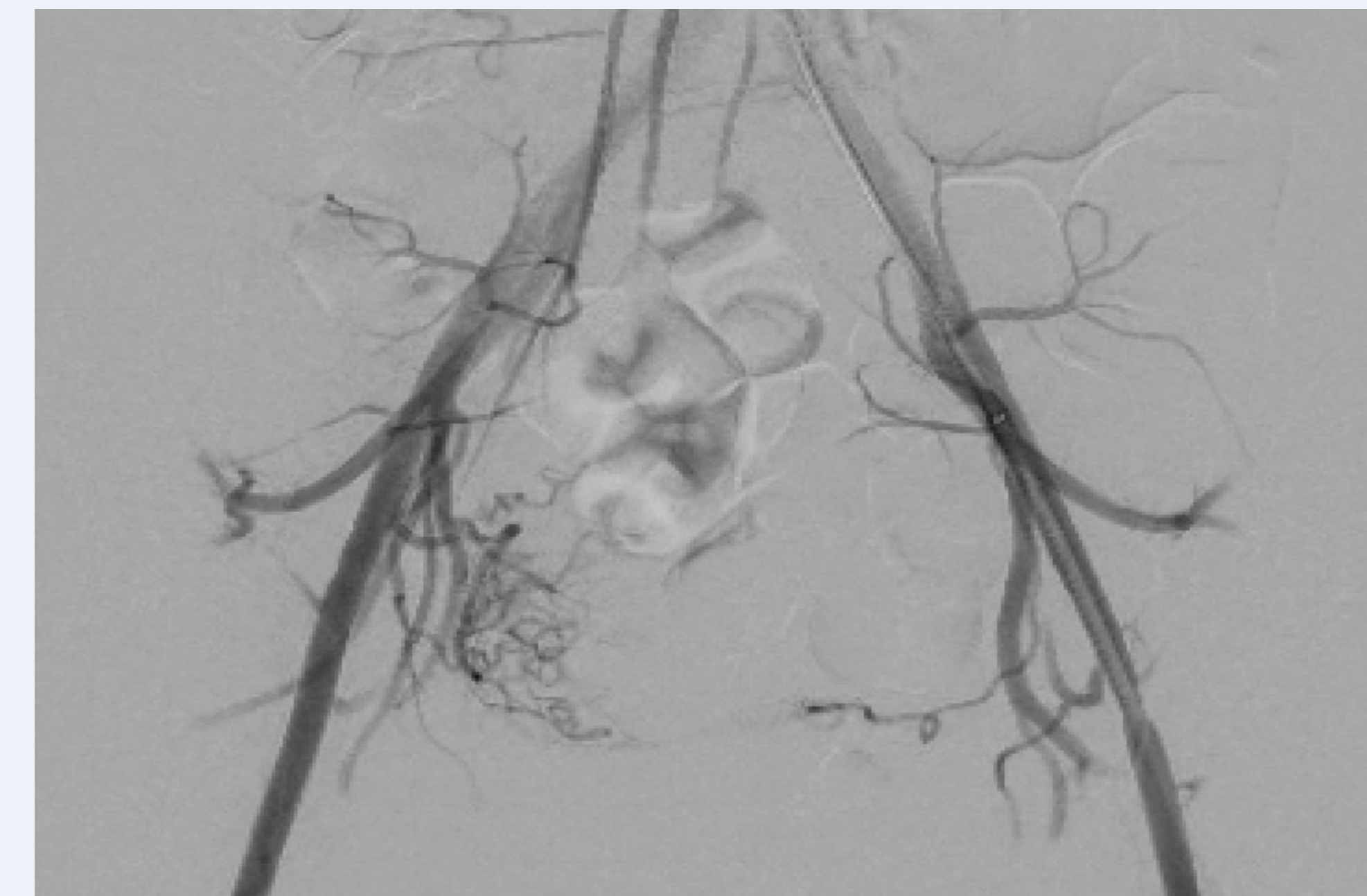
PATIENT TWO:

The second patient is a 25-year-old G2P1001 with a history of prior cesarean section who presented with a cervical ectopic pregnancy. First, she underwent a diagnostic hysteroscopy and D&C Cook balloon placement. Estimated blood loss was 30 cc for the procedure and there was no heavy bleeding after the procedure.

Results Continued:

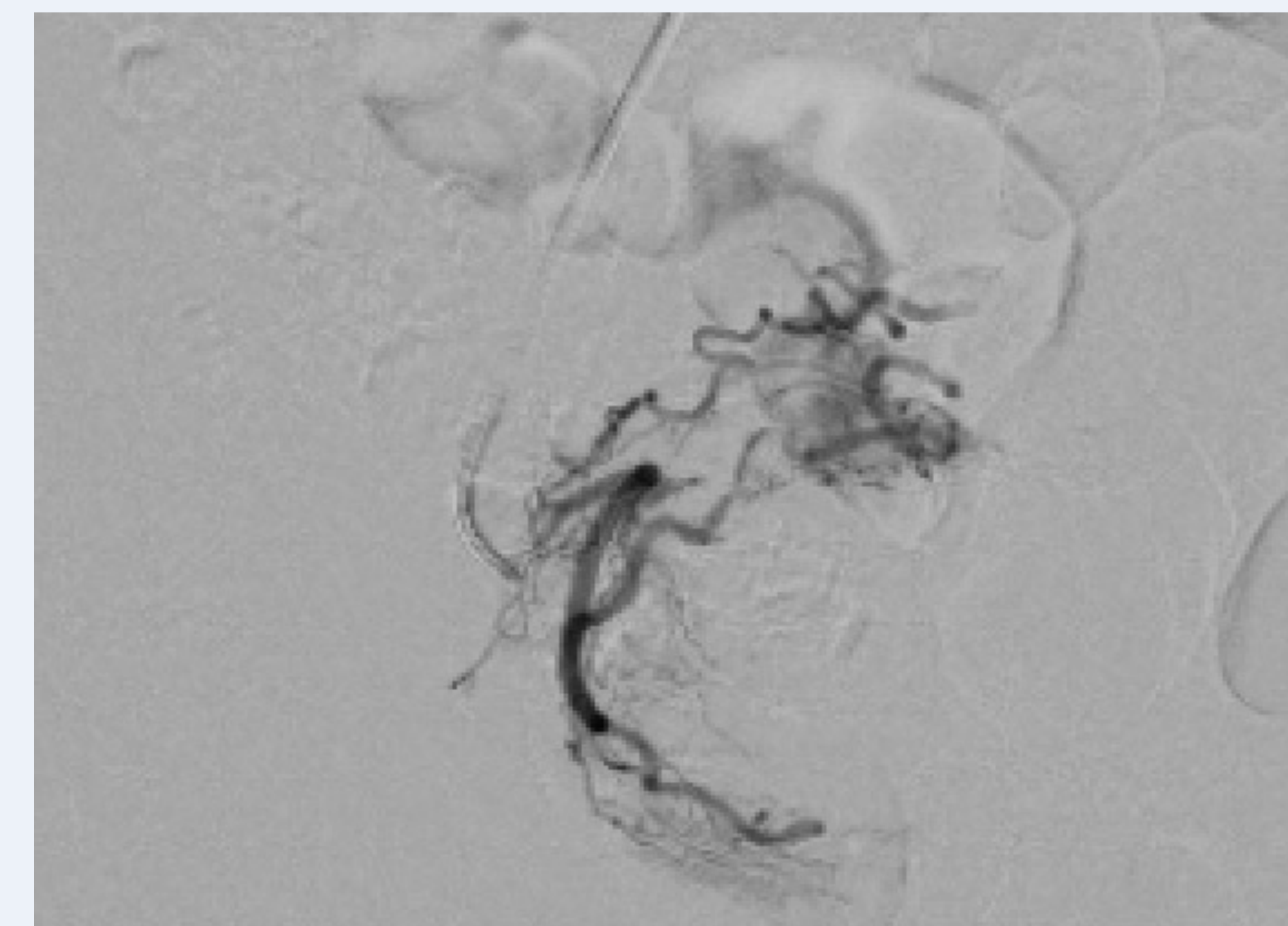
Patient returned 41 days later and was found to have a large pelvic mass. MRI showed a 6.1 x 5.5 cm heterogeneous enhancing mass with scattered hemorrhage in the region of the C-section scar. Beta-HCG was 560 mIU/mL and the mass was presumed to be retained placental tissue. The decision was made to proceed with a bilateral UAE prior to cesarean scar ectopic removal.

Angiogram demonstrated supply to the mass from the lower uterine segment. Parasitization of the left gonadal artery demonstrated supply to the uterine body and fundus. Particle embolization with 500-700 and 900-1200 micron particles was performed. Laparoscopic cesarean scar pregnancy removal was performed the following day.



Angiogram demonstrating supply to lower uterine segment mass

Patient was discharged two days following laparoscopic surgery. Patient followed up to OBGYN clinic the next week and reported no pain or bleeding.



Embolization of mass with supply from right uterine artery

Discussion:

Cervical ectopics have a high morbidity and mortality. Uterine artery embolization has been shown to decrease rates of blood loss significant enough to require blood transfusions. Patients undergoing D&C alone required a transfusion at a rate of 30% whereas patients managed with dilation & curettage with uterine artery embolization had a blood transfusion rate of 4% [6].

Embolization was traditionally used as a life saving measure when hemorrhage ensued but it can now be employed as an initial step in therapy to avoid severe hemorrhage and in many cases preserve fertility [4,8].

In these two cases, we show that UAE is a viable form of treatment for cervical ectopic pregnancies. This treatment modality is minimally invasive and preserves fertility as compared to traditional hysterectomies and the reduces the risk of hemorrhage allowing for faster potential faster patient recovery and decreased hospital stay.

Results from two patients shown here are encouraging, but due to small sample size additional inquiry is required.

Additionally further research into whether a temporary embolic such as gelfoam or a more permanent embolic such as Embospheres should be used in the management of these patients.

References:

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