

**Title:** Fertility After Uterine Artery Embolization: The Uncharted Timeline to Conception

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**Objective/Purpose:**

To present a case of a successful in vitro pregnancy three months following a unilateral uterine artery embolization procedure for an intra-abdominal hemorrhage following oocyte retrieval.

**Methods:** Case report

**Background:**

The most common method for oocyte retrieval is ultrasound-guided transvaginal aspiration (US-TV), which, while generally safe, carries risks of serious complications such as vaginal and intra-abdominal hemorrhage, typically caused by injury to adjacent pelvic organs or vasculature during needle aspiration.

Uterine artery embolization (UAE), a minimally invasive procedure, has been used in cases of post-retrieval bleeding. Potential complications post-UAE include an increased likelihood of miscarriage, preterm birth, abnormal placentation, cesarean delivery and, rarely, uterine rupture. Nonetheless, most pregnancies after UAE are successful.

To our knowledge, there is a lack of consensus regarding the appropriate timing between UAE and future conception. This case report contributes to the limited literature on fertility outcomes following UAE by presenting a successful conception via IVF 3 months after a unilateral UAE procedure.

**Case Report**

We present a case of a 30-year-old female G1P001 with past medical history of pyelonephritis, alpha thalassemia silent carrier who was unable to conceive despite attempting for two years. She presented to our emergency department as a transfer from an outside hospital with abdominal pain following oocyte retrieval at a fertility clinic. Imaging at the outside hospital demonstrated free fluid in the pelvis. CT Angiography upon admission demonstrated active bleeding from the distal portion of anterior branch of the right hypogastric artery. The patient was taken to interventional radiology for ultrasound-guided pelvic angiography and embolization. During the procedure, the angiogram showed hyperemia with abnormal blush visualized at the right uterine artery corresponding to the bleeding site seen in the CT Angiogram. The distal right uterine artery was embolized with 3 cc of Gel-Foam slurry. Since only one side was embolized, the decision was made by the patient's reproductive endocrinologist to resume fertility treatment 3 months after the UAE given the paucity of data regarding conception after UAE.

The patient established prenatal care at our healthcare system. Non-invasive prenatal testing (NIPT) was low risk, and first through third trimester ultrasound and laboratory results were within normal limits. During the third trimester, she was treated with labetalol for headaches.

Her prenatal course remained unremarkable otherwise until 36 weeks, when routine ultrasound imaging suggested oligohydramnios, prompting evaluation in the obstetric emergency department. At the hospital, the biophysical profile was 8/10, the non-stress test was non-reactive, and the maximum vertical pocket was confirmed as less than 2 cm despite administration of 1 liter of Lactated Ringer's. She was admitted for induction of labor. Due to a persistent category two tracing in labor, she underwent a primary low-transverse cesarean section. Placental pathology revealed a placenta weighing in the 75th–90th percentile for gestational age with evidence of acute funisitis in the fetal membranes.

Her postpartum course was notable for readmission due to preeclampsia with severe features. She was treated with IV magnesium and discharged on nifedipine 30 mg daily. No further complications were reported.

### **Conclusion:**

Bilateral (UAE) has been employed as a therapeutic intervention for a range of gynecologic conditions. While these procedures often yield favorable outcomes, they can be accompanied by concerns about fertility, among other complications. This case report presents a successful IVF-conceived pregnancy three months following unilateral UAE, complicated by preterm birth secondary to oligohydramnios and postpartum preeclampsia with severe features, offering valuable insight into the potential timeline between embolization and conception—a clinically ambiguous area with limited evidence. Importantly, this case highlights the need for further research to better understand this temporal relationship to guide clinical decision to minimize adverse outcomes for patients.

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