

BREAK THIS PRACTICE HABIT

Uterine aspiration: From OR to office

Compared with uterine aspiration in the OR, an office-based procedure is as safe, less expensive, and more patient centered—all reasons to make it the standard for surgical management of early pregnancy failure

Lauren Thaxton, MD, MBA, and Bri Tristan, MD

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CASE Patient with early pregnancy failure opts for surgical management

A 36-year-old woman (G3P2) at 9 weeks from her last menstrual period presents for an initial obstetric examination. On transvaginal ultrasound, her ObGyn notes an embryo measuring 9 weeks without cardiac activity. The ObGyn informs her of the early pregnancy failure diagnosis and offers bereavement support, and then reviews the available options: expectant management with follow-up in 2 weeks, medical management with mifepristone and misoprostol, and surgical management with a dilation and curettage (D&C). The patient is interested in expedited treatment and thus selects D&C, and the staff books the next available operating room (OR) slot for her the subsequent week. Over the weekend, the patient calls to report heavy bleeding and passage of clots, and the ObGyn's practice partner takes her to the OR for a D&C for incomplete abortion.

Early pregnancy failure occurs in about 1 in 5 pregnancies. Treatment options include expectant, medical, or surgical management. Surgical management is classically offered in the OR via D&C. With the

Dr. Thaxton is Assistant Professor, Department of Women's Health, University of Texas at Austin.

Dr. Tristan is Assistant Professor and Residency Program Director, Department of Women's Health, University of Texas at Austin.

The authors report no financial relationships relevant to this article.

advent of manual vacuum aspiration (MVA) using a 60-mL handheld syringe aspirator, office-based treatment of pregnancy failure has become more widely available.

In this article we make the case for why, in appropriate clinical situations, office-based uterine aspiration, compared with uterine aspiration in the OR, should be the standard for surgical management of early pregnancy failure, for these reasons:

1. equivalent safety profile
2. reduced costs, and
3. patient-centered characteristics.

1 Office-based procedures are safe

Suction curettage is one of the most common surgical procedures for a woman to undergo

Instant Poll

Do you agree that the standard location for uterine aspiration should be in the office?

- Yes, in appropriate clinical situations
- No

Tell us at rbarbieri@mdedge.com
Please include your name and city and state.

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during her lifetime, and it has an excellent safety profile. Authors of a recent systematic review found that major surgical complications, including transfusion and uterine perforation requiring repair, occurred in less than 0.1% of all uterine aspiration procedures.¹ Importantly, this complication rate did not differ by inpatient or outpatient site of procedure.

Anesthesia-related complications at the time of aspiration also are extremely rare, and they are less likely to occur in the office setting than in surgical centers or hospital-based clinics (<0.2% and <0.5%, respectively).¹ This may be a result of the types of anesthesia offered at varying locations, given that local analgesia or moderate sedation is likely used in office-based procedures while deep sedation or general anesthesia may be employed at other practice locations.

Studies specifically designed to determine the safety of suction aspiration by practice location have yielded similar results. Researchers who conducted a systematic review comparing the safety of procedures done at ambulatory surgical centers with office-based procedures found no difference in safety between procedures performed in these 2 settings.² These findings were confirmed by results from a large retrospective cohort study that reviewed more than 50,000 aspiration procedures performed in ambulatory surgical centers versus private offices.³ In that study, only 0.32% of women had any major adverse event, and there were no statistically significant differences in complication rates between settings.³

Complication rates based on procedure type are similar for MVA and electric suction aspiration. Early studies revealed no difference in the need for reaspiration or other complications for MVA compared with electric suction.⁴ This was later confirmed by a systematic review that found no significant differences in safety by type of suction overall, and a possible trend toward fewer uterine perforations with MVA.⁵ When procedures were assessed by gestational age, additional trends toward the safety of MVA emerged. For example, in procedures performed at less

than 50 days' gestational age, estimated blood loss and severe pain occurred less commonly during procedures performed using MVA.⁵

2 Office-based procedures are less expensive

There has been a trend in recent decades to obtain cost savings by moving appropriately selected gynecologic procedures from the operative suite to the outpatient setting. Because of MVA's minimal up-front and on-going costs, office-based suction aspiration is one of the most cost-effective procedures performed in the outpatient setting.

Dalton and colleagues, for example, demonstrated that in women diagnosed with early pregnancy failure, suction curettage is 50% less expensive when performed in the office as compared to in the operating suite.⁶ Likewise, in a cohort of patients who presented to the emergency department with an incomplete abortion, Blumenthal and colleagues showed a 41% procedural cost reduction by offering D&C in the outpatient setting instead of the OR.⁷ Waiting times and mean procedure times also were reduced by nearly half.

Recent studies have broadened cost analyses beyond the comparison of inpatient versus outpatient procedures. A multicenter trial of women with first-trimester pregnancy failure compared the costs of medication management with those of surgical procedures; as expected, the cost of D&C in the OR was significantly more expensive than medication management.⁸ However, MVA in the office was less expensive than medication management, due largely to the increased cost of managing medication failures.

In addition, a recent, well-designed decision model study demonstrated that offering women with early pregnancy failure a greater array of management options decreases costs.⁹ The study compared the costs when women were offered the most common options, expectant management or uterine evacuation in the OR, versus the costs when additional options were also offered. When options were expanded to include medication management and MVA

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Major surgical complications occurred in less than 0.1% of all uterine aspiration procedures, and the rate did not differ by inpatient or outpatient site of procedure

in the office, costs decreased by nearly 20% overall.⁹

3 Office-based procedures are more patient centered

The benefits of surgical management of an early pregnancy failure include very high success rates (98%) and convenient timing. Among women who elect surgical management, a desire to expedite the process in a predictable fashion is a common factor in their decision.^{10,11} It is unsurprising then that 68% of patients will select an office-based procedure if they do not perceive that the clinician has a setting preference.⁶

When surgical management is performed in the OR, scheduling delays are common. Such delays can be clinically important: Women progressing to a miscarriage while awaiting surgical treatment may be at risk for urgent, unplanned interval procedures for incomplete abortion, and they may be dissatisfied with the inability to access the desired management. While women are highly satisfied after treatment for early pregnancy failure in general,⁶ OR treatment can cause dissatisfaction because patients miss more work days or need assistance at home.¹² In a cross-sectional study, patients who elected office-based aspiration reported less delay to treatment (less than 2 hours) compared with women who elected OR procedures (more than 12 hours), and shorter time to procedure initiation was a satisfier.¹³

Women also note fear of the hospital setting and general anesthesia, and they tend to see hospital-based services as more invasive.¹¹ Clinicians can offer anesthesia in the outpatient setting with nonsteroidal anti-inflammatory medications and a paracervical block, oral sedation with an anxiolytic, or in some cases intravenous (IV) sedation with conscious sedation.

Our process for office-based uterine aspiration

We follow the step-by-step process outlined

below for performing office-based uterine aspiration. Clinicians should review their clinic's protocols prior to implementing such a plan.

Review the patient history and pregnancy dating. Patients with serious medical conditions, such as history of postabortion hemorrhage or a bleeding disorder, may not be appropriate candidates for an office-based procedure. We perform bedside ultrasonography to confirm pregnancy dating and diagnosis of pregnancy failure.

Review consent for the procedure and sedation. Risks of office-based uterine aspiration are the same as those for D&C: bleeding, uterine perforation, and failure to fully evacuate the uterus. Benefits include rapid, safe evacuation of the pregnancy. Alternative treatments include expectant or medical management.

For pain management, we start by discussing expectations with the patient. Providing general anesthesia in the outpatient setting is not safe; many women are satisfied, however, with local anesthesia with or without sedation.

Local anesthesia may be given using a paracervical block with 2 mL of 1% lidocaine at the tenaculum site followed by 18 mL divided between the 4 and 8 o'clock positions. In our practice, we are trained providers of conscious sedation, so additionally we offer IV fentanyl 100 µg and IV midazolam 2 mg given prior to the procedure.

Provide antibiotic prophylaxis. The American College of Obstetricians and Gynecologists and the Society for Family Planning recommend doxycycline 200 mg orally as a preoperative prophylaxis for office-based uterine aspiration.^{14,15} Metronidazole is an acceptable alternative for patients who have medication allergies.

Prepare the surgical field. To complete this procedure, you will need the following equipment:

- one MVA kit that includes an aspirator, curettes, and dilators (**FIGURE**, page 44)
- 20 mL 1% lidocaine, divided into two 10-mL syringes with a 22-gauge 3.5-inch spinal needle

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Very high success rates and convenient timing are 2 benefits of surgical management of an early pregnancy failure

FIGURE Manual vacuum evacuation kit contains syringe aspirator, curettes, and dilators



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- speculum
- cervical antiseptic prep
- single-tooth tenaculum
- ring forceps.

Perform the MVA procedure. A full

description of how to perform the MVA procedure using the Ipas MVA Plus Aspirator device is available online at <http://provideaccess.org/wp-content/uploads/2012/09/4Performing-MVA-Using-the-Ipas-MVA-Plus.pdf>.

A good option for many women

A D&C in the OR remains an appropriate option for patients who are clinically unstable due to heavy vaginal bleeding. With highly sensitive home urine pregnancy tests, pregnancies often are diagnosed before clinically apparent miscarriage. In fact, many such patients are diagnosed with pregnancy failure in the office, as was our patient in the case scenario. For such women, office-based management of early pregnancy failure is preferred because it is safe, cost-effective, and patient centered. ●

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A D&C in the OR remains an appropriate option for patients who are clinically unstable due to heavy vaginal bleeding

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The "Break This Practice Habit" series is spearheaded by Dr. Lauren Demosthenes, who makes overarching high value cost decisions in her role as Medical Director of High Value Care and Innovation, Department of ObGyn at Greenville Health System in Greenville, South Carolina. Watch for quarterly case presentations of low value, low evidence practices that should be questioned in current day, followed by reasons why that practice should be abandoned. If you would like to contribute to this series, please submit your query to Dr. Demosthenes at ldemosthenes@mdedge.com.