

BREAK THIS PRACTICE HABIT

To scan or not to scan: Routine ultrasonography is not necessary after medication management of early pregnancy loss

The authors contend that patients should be offered the option of a phone check-in and home pregnancy testing after medication management of miscarriage

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Ms. MB presents to the clinic for dating ultrasonography and is diagnosed with a missed abortion measuring 7 weeks. After reviewing

her management options, she elects for medication management. She receives mifepristone 200 mg and misoprostol 800 µg, with a plan to follow-up in clinic for repeat ultrasonography in a week. The day of her follow-up appointment, there is a large snowstorm. She calls her care team to ask if she needs to have a follow-up visit, as she is certain she has passed tissue and her bleeding is now minimal. She is told, however, that a follow-up ultrasonography is required, per clinic policy, to ensure successful management. Despite Ms. MB's grief and the difficult travel conditions, she makes the arduous journey back to the clinic to complete the ultrasound.

Do all patients need an ultrasound after medication management of early pregnancy loss? Or is there an alternative follow-up option?

Early pregnancy loss (EPL) is a common pregnancy complication, and its management is a routine part of reproductive health care. In the clinically stable patient, EPL may be managed expectantly, surgically, or medically, based on the patient's preference. For patients who select medication management, clear evidence



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supports that a combination regimen of mifepristone and misoprostol is more effective than treatment with misoprostol alone.^{1,2} The data suggest that 91% of patients will experience expulsion of the gestational sac by 30 days with medication management.¹ Because a minority of patients will have a retained gestational sac despite medication therapy, follow-up ensures complete expulsion of pregnancy tissue.

In the United States, most follow-up protocols include an ultrasound examination, which often entails transvaginal ultrasonography. Returning to clinic for an additional ultrasound may be costly and inconvenient—and during a global pandemic medically risky. Further, it may undermine a fundamental principle in management of EPL: autonomy. Many patients who select medication management do so out of a desire to minimize interventions or procedures. Follow-up protocols that align with patient preferences for fewer interventions are critically important to the provision of patient-centered care. Additionally, the COVID-19 pandemic highlights the value of offering an alternative follow-up strategy that minimizes the need for additional visits to a clinic or hospital.

Lessons from medication abortion management

In many ways, follow-up after medication management of EPL is analogous to follow-up after medication abortion. In both cases, the goal of follow-up is to ensure that complete expulsion has occurred without complication and to identify patients with incomplete expulsion of pregnancy tissue who may benefit from further treatment with additional medication or uterine aspiration. A key difference in the management of EPL is that there is no concern for ongoing pregnancy.

Historically, follow-up transvaginal ultrasonography was routinely performed after medication abortion to ensure complete expulsion of pregnancy.³ However, requiring patients to return to a health care facility for ultrasonography after abortion can

be burdensome, both for patients and clinicians. To provide more accessible, patient-centered care, researchers have investigated alternative follow-up strategies for medication abortion that remove the necessity for ultrasonography. Guidelines from both the National Abortion Federation and the American College of Obstetricians and Gynecologists state that routine ultrasonography is not necessary after medication abortion.^{4,5}

Quantitative serum human chorionic gonadotropin (hCG) testing before treatment and at a follow-up visit is one reasonable strategy to ensure successful treatment. In one study of medication abortion patients, an 80% decrease in serum hCG was predictive of complete expulsion in 98.5% of patients.⁶ While this strategy avoids ultrasonography, it still necessitates a visit to a health care facility for a blood draw. As an alternative, substantial evidence now demonstrates the safety and feasibility of using a combination of clinical symptoms and urine pregnancy testing to confirm completed medication abortion. The evidence for follow-up using a combination of clinical symptoms and urine pregnancy testing is discussed below.

Symptoms. An assessment of symptoms alone, by the patient or clinician, is an important indicator of treatment success and can be completed easily via telephone. In one study of medication abortion with mifepristone and misoprostol, patients correctly predicted passage of a gestational sac 85% of the time based on symptoms alone.⁷ In another study, the combined clinical assessment from the patient and the clinician had a sensitivity of 96% and a specificity of 67% for predicting complete pregnancy expulsion.⁸ Finally, in an analysis of 931 patients after medication abortion, when both the patient and clinician believed that the gestational sac had passed, ultrasonography demonstrated complete expulsion 99% of the time.⁹

Urine pregnancy testing. Several studies have demonstrated that the addition of urine pregnancy testing to a clinical assessment of symptoms is a safe and effective follow-up strategy in medication abortion. Contemporary over-the-counter pregnancy tests are

FAST TRACK

Returning to the clinic for an additional ultrasound may be costly, inconvenient, and risky, and it may undermine a fundamental principle in EPL management: autonomy

high-sensitivity tests that have an hCG detection threshold of 25 to 50 mIU/mL. As these tests are widely and commercially available in the United States, they can be a useful tool in follow-up strategies.

In a study by Chen and colleagues, patients seeking medication abortion were offered a choice of follow-up with ultrasonography at 1 week versus a combination of a 1-week phone call and a 4-week high-sensitivity urine pregnancy test. In this study, approximately 40% of patients opted for phone follow-up. The rates of incomplete abortion and loss to follow-up were similar between the 2 groups, highlighting the significant number of individuals interested in alternative models of follow-up and the efficacy of phone and urine testing specifically.¹⁰

In another study that evaluated the feasibility of a telephone and urine testing follow-up strategy, 97% of patients completed follow-up and all continuing pregnancies were diagnosed prior to the 4-week urine pregnancy test.⁸

In a hospital in Edinburgh, where a telephone-based symptom assessment in combination with a 2-week low-sensitivity pregnancy test (hCG detection threshold of 2,000 mIU/mL; not commercially available in the United States) is the standard of care for medication abortion follow-up, Michie and Cameron reported a sensitivity of 100% and a specificity of 88% to detect ongoing pregnancies.¹¹

Taken together, these data demonstrate that a combination of symptom assessment via telephone and home urine pregnancy testing (in addition to standard patient instructions and return precautions) is an appropriate strategy for medication abortion follow-up, and they suggest that similar strategies can be employed in the medication management of EPL.

To scan or not to scan?

Many published studies of EPL have used ultrasonography to confirm complete expulsion of pregnancy tissue; however, others have relied on either clinical evaluation or urine pregnancy testing to determine

treatment success, using ultrasonography only as clinically indicated.¹²⁻¹⁴ In their evaluation of medication management versus surgical management of miscarriage, Niinimäki and colleagues performed urine hCG testing at a 5- to 6-week follow-up visit to determine treatment success; ultrasonography was obtained only if the urine hCG test was positive. They demonstrated a treatment success rate of 90% with mifepristone and misoprostol treatment,¹² congruent with previously published results.

While a follow-up ultrasound scan may be helpful to accurately assess treatment efficacy in research protocols, it should not be considered necessary in clinical practice. Posttreatment imaging in an asymptomatic patient may place additional burden on the patient and health care system and may result in unnecessary intervention. Although treatment success is reliably defined by the absence of a gestational sac,^{15,16} the finding of a thickened endometrium or presence of vascularity may result in the patient receiving an unnecessary aspiration or other intervention.

The evidence from the medication abortion literature suggests that a combination of a 1-week telephone call to assess patient symptoms in addition to a 4-week high-sensitivity pregnancy test is a reasonable alternative follow-up strategy. A similar strategy is already used in the United Kingdom, where current National Institute for Health and Care Excellence guidelines for follow-up after medication management of EPL recommend home pregnancy testing in 3 weeks unless the patient experiences worsening pain or bleeding symptoms.¹⁷

Time to rethink follow-up care

Follow-up care for EPL should be provided in a way that is sensitive to the needs and preferences of the patient and, if desired, minimizes additional health care visits, testing, or procedures. While some patients may prefer ultrasonography follow-up, it is important for the clinician to recognize that there are safe and effective alternatives. Patient preference guides the choice of EPL management;

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this logic extends to follow-up strategies. As we strive to provide evidence-based, patient-

centered EPL care, there is no need for universal follow-up ultrasonography. ●

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