

Systematic Review Snapshot

Clinical Synopsis

TAKE-HOME MESSAGE

Current data suggest there is no difference between expectant care, misoprostol, and surgical treatment for incomplete miscarriage at less than 13 weeks of gestation.

METHODS

DATA SOURCES

The authors searched the Cochrane Pregnancy and Childbirth Group's Trials Register (September 2009), which includes searches of the Cochrane Central Register of Controlled Trials, MEDLINE, and hand searches of journals and conference proceedings. No language restrictions were applied.

STUDY SELECTION

Only randomized controlled trials comparing medical treatment with alternatives for women with spontaneous miscarriage after less than 24 weeks of gestation were eligible for inclusion; selection was made by at least 2 review authors independently.

DATA EXTRACTION AND SYNTHESIS

Data were extracted with a standardized data collection form. Dichotomous results were reported as summary relative risk with 95% confidence intervals.

Medical Management of Incomplete Miscarriage

EBEM Commentators

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Results

Comparison	Outcome (No. of Studies, Sample Size)	Relative Risk (95% Confidence Interval)
Vaginal misoprostol vs expectant care	Completed miscarriage (2; 308)	1.23 (0.72–2.10)
	Unplanned surgery (2; 308)	0.62 (0.17–2.26)
	Pain relief (2; 308)	1.12 (0.67–1.88)
Vaginal misoprostol vs surgery	Completed miscarriage (3; 154)	0.90 (0.82–0.99)
	Unplanned surgery (3; 315)	5.56 (1.11–27.90)
	Pain relief (3; 313)	1.75 (1.21–2.54)
Oral misoprostol vs surgery	Completed miscarriage (4; 1143)	0.97 (0.93–1.02)
	Unplanned surgery (3; 843)	7.07 (2.34–21.30)
	Pain relief (1; 212)	0.85 (0.77–0.92)
Vaginal and oral misoprostol vs surgery	Completed miscarriage (1; 80)	0.95 (0.87–1.04)

Fifteen studies were included in the systematic review. The majority of included studies reported proper methods of randomization and concealment of allocation; however, only 1 trial reported adequate blinding. Participants were confirmed to have retained tissue by ultrasonography or received a clinical diagnosis of uncertainty of complete versus incomplete miscarriage. Women with nonviable pregnancies or in utero fetal demise were excluded, and no study included women with more than 13 weeks of gestation.

The systematic review suggests that women have a number of options for the treatment of incomplete miscarriage (less than 13 weeks). Although significant uncertainty exists around effect sizes, differences in treatment are likely of limited clinical significance, which may allow women to choose from multiple options according to their preferences for a particular treatment.

The Table summarizes a few outcomes for patients to consider when

choosing between different treatment methods. Though a number of outcomes were reported in the original review article (ie, blood transfusion, anemia, or pelvic infection), there were no significant differences and therefore the outcomes are not reported in the Table. Of the studies included, roughly half determined completion of miscarriage clinically, whereas the remainder used ultrasonographic confirmation. Timelines for assessment of completed miscarriage varied, but the majority assessed patients at 1 to 2 weeks. In the Table, the relative risk for unplanned surgery was derived from expectant or medical treatment participants who at follow-up had retained products (at 1- to 2-week follow-up) and requested surgical removal. Vaginal misoprostol versus surgery demonstrated an increased requirement for analgesia in the misoprostol group but a reduced requirement for analgesia in the oral misoprostol group compared with those undergoing surgery (Table).

Commentary

Spontaneous incomplete miscarriage before 24 weeks of gestation is associated with vaginal bleeding, abdominal cramps, dilatation of the cervical canal, and partial passage of the products of conception through the cervical os. The overall spontaneous miscarriage rate is reported to be 15% to 20% of pregnancies¹ and may lead to

complications such as hemorrhage and infection.²

Surgical evacuation under local or general anesthesia is common practice in the United States, as well as Asian and African countries.³ One recent review recommended discharge from the ED for stable patients, with planned evaluation by an obstetrician for uterine dilatation and curettage within 1 to 3 days.⁴ However, Dalton et al⁵ observed an association between treatment choices for miscarriage and overall safety, perceived patient preferences, and training experience of the particular care provider.

This Cochrane review highlights a need for continued research into treatment modalities for incomplete miscarriages. The number of studies included in the review was limited, many were underpowered, and women were limited to a gestational age less than 13 weeks. Clinically relevant outcomes such as rates of completed miscarriage were not statistically different between the different treatment methods. At submission of this article, the Food and Drug Administration had not yet approved the use of misoprostol for incomplete miscarriages. However, these treatment options should be carefully weighed, taking into account individual patient preferences about discomfort, time to completion, unplanned surgical procedures, hospitalization versus treatment at home, and follow-up.

1. Scott JR. Early pregnancy loss. In: Scott JR, Di Saia PJ, Hammond CB, et al, eds. *Danforth's Obstetrics and Gynecology*. 8th ed. Philadelphia, PA: Lippincott Williams & Wilkins; 1999:143-153.
2. Saraswat L, Bhattacharya S, Maheshwari A, et al. Maternal and perinatal outcome in women with threatened miscarriage in the first trimester: a systematic review. *BJOG*. 2010;117:245-257.
3. Farrel RG, Stonington DT, Ridgeway RA. Incomplete and inevitable abortion: treatment by suction curettage in the emergency department. *Ann Emerg Med*. 1982;11:652-658.
4. Coppola PT, Coppola M. Vaginal bleeding in the first 20 weeks of pregnancy. *Emerg Med Clin North Am*. 2003;21:667-677.
5. Dalton VK, Harris LH, Gold KJ, et al. Provider knowledge, attitudes, and treatment preferences for early pregnancy failure. *Am J Obstet Gynecol*. 2010;202:531.e1-8.

This is a clinical synopsis, a regular feature of the *Annals'* Systematic Review Snapshot (SRS) series. The source for this systematic review snapshot is: Neilson JP, Gyte GML, Hickey M, et al. Medical treatments for incomplete miscarriage (less than 24 weeks). *Cochrane Database Syst Rev*. 2010;(1):CD007223. DOI: 10.1002/14651858.CD007223.pub2.

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