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Outcomes of medical abortion through 63 days in women with twin gestations

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Abstract

Background—Twin gestation is not considered a contraindication to medical abortion with mifepristone and misoprostol. However, data comparing the efficacy of medical abortion for singleton gestations as compared with multiple gestations are limited. We examined medical abortion outcomes for twin gestations through 63 days.

Study Design—We performed a secondary analysis of treatment efficacy and side effects using pooled data from two randomized medical abortion trials. All subjects received mifepristone 200 mg orally and misoprostol 800 mcg vaginally. Outcomes in women with singleton and twin gestations were compared.

Results—Of 2208 subjects, 24 (1.1%) women had twins. Treatment success was not statistically different for twin and singleton gestations (91% vs. 97%, $p=0.19$). Perceived bleeding and pain were not significantly different between groups.

Conclusions—Treatment success of medical abortion for twins is not significantly different than for singletons, although small differences cannot be excluded due to the limited number of twins.

Keywords

mifepristone; misoprostol; medical abortion; twin pregnancy; multiple gestations

Introduction

Medical abortion with mifepristone and misoprostol is often used for termination of twin gestations as a twin gestation is not considered a contraindication [1]. Data comparing the efficacy of medical abortion when used for singleton gestations as compared with multiple

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gestations are currently limited to one retrospective cohort study examining the effectiveness of medical abortion that included twin gestations [2]. In this study, 1349 women were given mifepristone and buccal misoprostol through 59 gestational days and included for analysis, of which 19 (1.4%) were twin gestations [2]. Two (10.5%) of the 19 subjects with twin gestations in this study required uterine evacuation for successful completion of abortion as compared to 1.6% of singleton pregnancies [2]. We could not identify any prospective studies that reported medical abortion outcomes specifically for twin gestations using mifepristone and misoprostol. We performed a secondary analysis using pooled data from two randomized controlled trials to determine medical abortion outcomes for twin gestation through 63 days.

Methods

This is a secondary analysis of data pooled from two multicenter randomized trials of medical abortion. Both trials were approved by the University of Pittsburgh Institutional Review Board as a central board. The studies were designed to evaluate the timing of misoprostol administration following mifepristone. In both trials, all subjects received oral mifepristone 200 mg followed by vaginal misoprostol 800 mcg. Subjects were randomly assigned to the timing for vaginal misoprostol use following mifepristone. Time intervals were 15 min, 6-8 hr, or 23-25 hr. The first trial included 1080 women [3] and the second trial included 1,128 women [4]. All trial participants were scheduled to return for follow-up evaluation 6-8 days after taking mifepristone. Transvaginal ultrasonography was performed at each visit. Women who had not expelled the gestational sac were given a second dose of 800 mcg misoprostol vaginally. Subjects who received a second dose of misoprostol had another follow-up visit scheduled 6-8 days later (12-16 days after mifepristone administration). Women with an ongoing pregnancy, as defined by a persistent sac with gestational cardiac activity, after two doses of misoprostol were treated with uterine aspiration. Women with a non-viable persistent gestational sac were offered uterine aspiration or expectant management. Subjects with a complete medical abortion were contacted by telephone 5 weeks after initiating the study to inquire about any problems since the abortion. The medical abortion was considered unsuccessful if uterine aspiration was performed for any indication.

At the final follow-up visit, all subjects completed visual analog scales (VAS) [5,6] designed to measure the amounts of perceived bleeding and pain experienced during the abortion process. On a 100-mm line with 0 equaling no bleeding and 100 equaling heavy bleeding, subjects were asked to mark the amount of bleeding they experienced. In a similar fashion, pain was recorded with 0 equaling no pain and 100 representing severe pain. Each subject also completed a questionnaire regarding her acceptability of the medical abortion process.

For this analysis, we compared outcomes in women with twin and singleton gestations undergoing medical abortion through 63 days. Demographic and outcome variables were compared using the Mann-Whitney rank-sum test for continuous variables and Fisher exact test for categorical variables, as appropriate. Multivariable regression was not performed because of the small sample size. For all tests, p-values less than 0.05 were considered statistically significant. All statistical analyses were performed using Stata 10 (StataCorp, College Station, TX).

Results

Of the 2208 women enrolled in the two studies, 24 (1.1%) women had twin gestations. Outcome data were available for 2156 (97.6%) women including 23 of the women with twin

gestations. None of the women had triplet or higher order gestations. Demographic characteristics of the study populations are summarized in Table 1.

Overall, 21 women (91.3%) with twins and 2060 women (96.6%) with singletons were successfully treated with medical abortion ($p=0.19$). Complete expulsion following a single dose of misoprostol occurred in 78.3% of women with twin gestations compared to 88.1% of women with singleton gestations ($p=0.18$). Only 1 woman (4.3%) with a twin pregnancy and 14 women (0.7%) with singletons had pregnancies with continuing cardiac activity present at the one-week follow-up visit ($p=0.15$). Suction aspiration procedures were performed for two women with twin gestations, one for persistent cardiac activity at the one-week follow-up visit, and the other for heavy bleeding on the 14th day after misoprostol administration. Suction aspiration procedures were performed for 72 women with singleton gestations for reasons such as prolonged bleeding, persistent cardiac activity, persistent nonviable pregnancy, and subject request.

Women with singleton and twin gestations self-reported a wide range of bleeding and pain (Fig 1). There were no differences based on VAS assessments for bleeding ($p=0.40$) or pain severity ($p=0.31$). Women in both groups found medical abortion acceptable, with 89% of the singleton group and 82% of the twin group saying they would choose a medical abortion again ($p=0.29$). In addition, 95% of both groups said they would refer a friend for a medical abortion ($p=1.00$).

Discussion

Overall, twins occurred in about 1% of subjects in these two studies which is consistent with the rate of spontaneous twinning in the general population [7]. Previous research on medical abortion for twin gestations is quite limited due to their infrequency. We pooled data from two large studies, totaling over 2200 women, to obtain information on 23 twin gestations. To detect a difference in overall success between the two groups, we would have needed 14545 subjects. For our current study, the likelihood we would achieve statistical significance with our sample size is only 23 percent.

Our analysis differs from those previously published as our data come from randomized, controlled studies with additional defined follow-up evaluations compared to data from case reports or retrospective cohort studies.

These results provide some basis for women with twin gestations seeking medical abortions. Our analysis, while limited by small numbers, suggests that neither the overall efficacy nor side effects (pain and bleeding) of medical abortion are significantly different for women with twin and singleton gestations. Therefore, women requesting an abortion of a twin gestation up to 63 days should be offered the option of medical abortion. Compared with singleton gestations, our data suggest that patients with twin gestations may more often need a second dose of misoprostol to achieve complete expulsion. Patients should be counseled about this possibility but reassured that the process will most likely be successful. Like medical termination of singleton gestations, our data suggest that the need for follow-up to ensure successful completion of medical termination of twin gestations is necessary and that a second dose of misoprostol or suction aspiration will be needed in some cases. Follow-up procedures for medical abortion should be carefully followed, as per routine, to identify all patients who require further treatment.

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References

1. Creinin, MD.; Gemzell-Danielson, K. Medical abortion in early pregnancy. In: Paul, M.; Grimes, D.; Stubblefield, P.; Lichtenberg, ES.; Borgatta, L.; Creinin, MD., editors. *A Clinician's Guide to Abortion: Surgical and Medical Practice*. Vol. Chapter 10. London: Burnhill Beckham; 2009.
2. Fjerstad M, Sivin IE, Lichtenberg S, Trussell J, Cleland K, Cullins V. Effectiveness of medical abortion with mifepristone and buccal misoprostol through 59 gestational days. *Contraception*. 2009; 80:282–6. [PubMed: 19698822]
3. Creinin MD, Fox MC, Teal S, et al. A randomized comparison of misoprostol 6 to 8 hours versus 24 hours after mifepristone for abortion. *Obstet Gynecol*. 2004; 103:851–9. [PubMed: 15121556]
4. Creinin MD, Schreiber CA, Bednarek P, et al. Mifepristone and misoprostol administered simultaneously versus 24 hours apart for abortion: A randomized controlled trial. *Obstet Gynecol*. 2007; 109:885–94. [PubMed: 17400850]
5. Katz J, Melzack R. Measurement of pain. *Surg Clin North Am*. 1999; 79:231–52. [PubMed: 10352653]
6. Creinin MD. Randomized comparison of efficacy, acceptability and cost of medical versus surgical abortion. *Contraception*. 2000; 62:117–24. [PubMed: 11124358]
7. Myrianthopoulos NC. An epidemiologic survey of twins in a large prospectively studied population. *Am J Hum Genet*. 1970; 22:611–29. [PubMed: 5518457]

Figure 1. Visual Analog Score (VAS) by number of gestations. Part A shows the amount of bleeding VAS ratings ($p=0.40$). Part B shows the severity of pain VAS ratings ($p=0.31$). The lower and upper limits of the boxes show the 25th and 75th percentiles, respectively. The line within the box shows the median or 50th percentile. The whiskers show the range of all values. The point values outside the whiskers show values that are more than 1.5 times the inter-quartile range, the interval between the 25th and 75th percentiles.

Table 1**Demographics**

	Singleton n=2133	Twin n=23	p
Median age (years)	25	24	0.6
Gestational age (days)	n (%)	n (%)	0.9
48 days or less	877 (41.1)	10 (43.5)	
49-55 days	675 (31.7)	8 (34.8)	
56-63 days	581 (27.2)	5 (21.7)	
Gravidity	n (%)	n (%)	0.7
1	500 (23.4)	4 (17.4)	
2	442 (20.7)	6 (26.1)	
3 or more	1191 (55.8)	13 (56.5)	
Parity	n (%)	n (%)	0.5
0	819 (38.4)	7 (30.4)	
1	579 (27.1)	9 (39.1)	
2 or more	735 (34.4)	7 (30.4)	
Medication interval	n (%)	n (%)	0.8
< 15 min	547 (25.6)	7 (30.4)	
6-8h	519 (24.3)	6 (26.1)	
23-25h	1067 (50.0)	10 (43.5)	