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Obstetrics & Gynaecology

MEDICAL ABORTION IN LATE FIRST TRIMESTER (9 –12 WEEKS) IS A BOON OR BANE

KEY WORDS: Medical abortion, Misoprostol, Mifepristone, Intrauterine adhesions, uterine contraction.

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ABSTRACT

Abortion, also known as pregnancy termination, is a way to end a pregnancy. Medication abortion, also referred to as medical abortion, is a safe and effective method of providing abortion. Medication abortion involves the use of medicines rather than uterine aspiration to induce an abortion. Medical abortion is a non-surgical procedure using medication to terminate pregnancy and has revolutionized reproductive health care. Abortions are to be properly carried out by trained professionals to avoid complications. Most patients at 70 days of gestation or less who desire abortion are eligible for a medication abortion. Medical abortion at 9-12 weeks is an effective method for terminating a pregnancy, with success rates comparable to surgical abortion. Medical abortion may reduce the risk of complications associated with surgical procedures, such as uterine perforation or cervical damage. Medical termination of pregnancy involves using medications, such as mifepristone and prostaglandin, to induce an abortion. Surgical treatment has been used as a method of choice for the termination of pregnancy for many years. Still, significant complications do occur, including uterine perforation, hemorrhage, intrauterine adhesions, and retained products of conception. Mifepristone is primarily an antiprogesterone. It works by blocking the effects of progesterone, making both the cervix and uterine vessels dilate and causing uterine contraction.

INTRODUCTION

Medical abortion is an effective and acceptable option for abortion care (1)

Unsafe abortion remains a significant threat to women's lives and health (2)

Abortion is the termination of pregnancy at any time before the fetus has attained a period of viability.

A large body of evidence, practice internationally, and recommendations by the World Health Organization (WHO) support the efficacy of a 200 mg dose of mifepristone, followed by 800 mcg of misoprostol in pregnancies up to 63 days gestational age (3,4)

Medical abortion between 64 and 70 days of gestation may be offered on an outpatient basis using mifepristone and vaginal misoprostol. Service provision without an in-person follow-up is feasible. (5)

Outpatient medical abortion regimens with mifepristone followed in 24-48 hours by buccal misoprostol are highly effective for pregnancy termination through 63 days of gestation. (6)

Medical abortion can be self-managed without the supervision of a healthcare provider, provided accurate information and support are given, and women have access to a healthcare provider to contact if needed (7,8)

Reports show no significant difference in effectiveness or satisfaction between in-clinic and home use of misoprostol or both drugs. (9,10)

The rapid development of internet technologies gives further

options for the provision of abortion treatment nowadays. Mobile internet coverage has increased in all countries worldwide, providing access to telemedicine options. (11)

Web applications developed by doctors, web application engineers, and non-governmental organizations provide effective counseling on contraception and safe and effective medical abortion. (12)

Studies aimed to increase access to medical abortion at home have been performed in different settings with different legislation and health systems. The vast majority are limited to 63 days of gestation, but more recent studies also include more advanced pregnancies with gestational lengths up to 77 days, and the World Health Organization confirms that home abortion is safe in first-trimester gestation. (13)

Oral or vaginal misoprostol combined with mifepristone, is effective and safe for termination of pregnancy between 8 and 16 weeks of gestation. (14)

Data show that an outpatient regimen of 200mcg mifepristone followed by a single dose of misoprostol is safe and effective for medical abortion for up to 70 days from the last menstrual period (LMP). (15)

Where medical TOP with mifepristone is not available, misoprostol-only medical TOP is acceptable to women who have the choice between medical and surgical techniques. (16)

Despite the availability of safe and highly effective methods of abortion, unsafe abortions continue to be widespread, nearly all in developing countries. The latest estimates from the World Health Organization put the figure at 21.6 million unsafe abortions worldwide in 2008, up from 19.7 million in

2003, a rise due almost entirely to the increasing number of women of reproductive age globally. (17)

Unsafe abortion is a preventable cause of maternal mortality.

Unsafe abortions mean “termination of an unintended pregnancy either by persons lacking the necessary skills or in an environment lacking the minimum medical standards or both.”

New evidence has shown that the most common outpatient protocol for early medical abortion in the United States (200 mg mifepristone followed by 800 mcg buccal misoprostol) is effective and acceptable for ending pregnancies 64–70 days from LMP and can be offered without altering existing outpatient services. (18)

The first regimens of medical abortion introduced in most countries used 400 mcg oral misoprostol following mifepristone for medical abortion through 49 days' gestation. (19,20)

Improved access to medical abortion, including by expanding the gestational age at which it can be done safely to reduce unsafe abortions, particularly where trained surgical providers are limited.

Objectives

- To evaluate medical abortion as a treatment option for late first-trimester abortion.
- To describe the efficacy, safety & acceptability of medical abortion in the late first trimester

MATERIALS AND METHODS

A total of 108 pregnant women, with a gestational age of 9 - 12 weeks, who came for termination of pregnancy at the OBSTETRICS AND GYNAECOLOGY department at Mahavir Institute of Medical Sciences, Vikarabad, in March-August 2024, were included. Oral and written information about the methods of termination were given, and all the patients chose by informed consent to undergo a medical termination of pregnancy.

- At the first visit, gestational age was determined, and the choice of method was decided. Gestational age was defined by transvaginal ultrasound measurement of fetal crown-rump length (CRL).
- After careful history taking and evaluation, all pregnant women received mifepristone 200 mg orally.
- The women were admitted 48 hours later, a prophylactic single dose of antibiotics was given and followed by 600mcg - 800 mcg of misoprostol given vaginally and are observed for pain, vaginal bleeding, and expulsion of foetus or products of conception. Analgesics were given whenever necessary.
- When products of conception are not passed within 4 hours, further doses of misoprostol are repeated.
- Misoprostol 200 mcg was repeated every 4th hour, to a maximum of five doses depending upon the need.
- The termination was confirmed by visual inspection of the products of conception.
- The induction-to-abortion interval was defined as the time interval in hours from administration of misoprostol to passing the products of conception and was routinely recorded.
- The women were observed in the ward for 2-4 or more hours after completion. Rhesus negative- women received Rhesus Immune Globulin.
- A clinical examination and ultrasonography were performed at follow-up after 8-14 days. Any complications, heavy bleeding, pain, and fever from discharge to follow-up were assessed.

Inclusion Criteria

- All pregnant women with gestational age 9-12 weeks who

came for termination of pregnancy to the obstetrics and gynaecology department of Mahavir Medical College, Vikarabad, were included.

Exclusion Criteria

- Ectopic pregnancy
- Severe bleeding disorders
- Severe liver or kidney diseases
- Allergy to mifepristone or misoprostol

RESULTS

Distribution of reproductive characteristics of women who underwent medical abortion at 9 - 12 Weeks of gestation

Characteristics	N
Total	108
Parity	
Nulliparous	52
multiparous	56
Estimated gestational age	
9 to 10 weeks + 6 days	62
11 to 12 weeks	46

Abortion features about gestational length.

Gestational age in weeks	No. of Misoprostol Doses (200mcg)	Induction to Abortion (hours)
9 to 10 weeks +6 days(62)	6	8 – 12 hours
11 to 12 weeks (46)	8	12 – 16 hours

Women who required Surgical Evacuation

Patient	Gestational Age In Weeks	No. of Misoprostol Administrations	Induction For Surgical Evacuation
1	9 weeks + 2days	6	Retained products of conception in ultrasound at follow-up
2	10 weeks	4	Prolonged hemorrhage, endometrium – 18mm
3	9 weeks + 4 days	6	Incomplete abortion
4	12 weeks	4	Incomplete abortion with acute hemorrhage, with the fetus aborted
5	10 weeks + 4 days	6	Incomplete abortion with endometrium – 20mm
6	10 weeks + 2 days	6	Retained products of conception in ultrasound at follow-up
7	11 weeks +5 days	6	Prolonged hemorrhage with USG showing retained products of conception
8	10 weeks +2 days	4	Incomplete abortion with acute hemorrhage
9	11 weeks +5 days	6	Incomplete abortion with endometrium – 26mm
10	9 weeks + 6 days	6	Retained products of conception in ultrasound at follow-up
11	11 weeks	6	Prolonged hemorrhage with ultrasound showing retained products of conception



Aborted fetus with gestational age of 12 weeks



Aborted fetus with gestational age of 12 weeks

DISCUSSION

This study of 108 women represents a method for late first-trimester medical abortion. The mifepristone-misoprostol method used was found to be an effective method for termination of pregnancy, had acceptable side effects, and was generally well tolerated.

Medical Abortion was effective in late first-trimester abortion with a success rate of 90.5%. Surgical Evacuation was carried out in 11 (9.5%) women following ultrasound.

The minor differences in efficacy may be attributed to the differences in several misoprostol administration decisions to intervene surgically were related to patient complaints and ultrasound findings, as there were no strict criteria regarding the indication for surgical intervention.

In the present study, no ongoing pregnancies were detected after the medical abortion.

The continuing pregnancy rate is compared to that of Hamoda et al, was reported to be 1.5% where more than 1,000 patients were treated. The absolute number of continuing pregnancies in this study was small, and a comparison of failure rate by gestational age, therefore, could not be made. (22)

In this study, the results for the induction-to-abortion time were around 12-24 hours. The results for induction-to-abortion time in this study are similar to previous reports.

In this study, painful contractions or menstrual cramps were reported by almost all the women in the ward. All received prophylactic analgesics, and the majority indicated an acceptable level of pain.

Lalitkumar et al state that the analgesic regimens for medical abortion vary widely, for instance, for second-trimester medical abortion. The rationale for the differences is unknown. (21)

At the follow-up, some women reported that they had not been prepared for the level of pain. Our experience indicates that the procedure is relatively painful and that it is of great importance to give adequate pain relief. It is important to

provide high-quality information to ensure realistic expectations about the pain, as this will enhance the acceptance and tolerability of the majority of women.

Bleeding is an expected consequence of the treatment, and two of the women required a surgical evacuation immediately to control bleeding in this study. None of the patients required a blood transfusion.

- None of the patients required a blood transfusion, as reported in other studies. (22)
- The median duration of bleeding after termination was similar to early first-trimester abortion.
- The validation of completion by observing the expelled products of conception seems to have been successful, as no ongoing pregnancies were detected at discharge. Overall, safety issues reported with medical abortion in the late first trimester were rare.
- Expanding the gestational ages at which medical abortion can be safely offered can increase access to quality abortion services.
- Ensuring access to safe abortion services is an important strategy to reduce maternal morbidity and mortality.
- Increasing the gestational age at which medical abortion is offered is one way to safely create access to critical health services for women.
- In this study, no association could be made between gestational age and the requirement for surgical evacuation.
- Earlier reports have shown the efficacy of late first-trimester medical abortion regimens to be negatively correlated with the gestational age and that induction-to-abortion time was gestational-age dependent. In contrast, no such associations could be found here. The reason for the latter is presently unknown, but probably, the number of our patients is not high enough to detect minor differences.
- In line with the data presented by Hamoda et al, a positive correlation between gestational age and the risk of surgical evacuation was shown. In this study, 72.2% of the women who required the maximum number of misoprostol applications had a vacuum aspiration. (22)
- Another trial randomized 1112 women presenting for medical abortion between 8–16 weeks of gestation in 12 Shanghai hospitals to four treatment groups. No differences in complete abortion were found between groups at higher gestational ages. (23)

SUMMARY

- Medical abortion using mifepristone and misoprostol is effective for terminating pregnancies up to 12 weeks of gestational age.
- The combination of mifepristone and misoprostol in repeated doses was effective for late first-trimester termination.
- The study achieved a success rate of 90.5% for medical abortion in the late first trimester.
- Surgical evacuation was done in 9.5% of women due to complications or incomplete abortion.
- The side effects were tolerable, and the majority of women were satisfied with the method.
- The induction-to-abortion time ranged from 8-16 hours.
- Almost all women reported painful contractions, and prophylactic analgesics were administered.
- The acceptability of the treatment was high, and medical abortion offers a valuable alternative to surgical abortion in the late first trimester.
- So, medical abortion in the late first trimester is a BOON.

CONCLUSION

Overall, the acceptability of the treatment was high. This shows that the combination of mifepristone and misoprostol in repeated doses is effective for late first-trimester termination. The side effects are tolerable, and the majority of women were satisfied with the method. Medical abortion in

the late first trimester offers a valuable alternative to surgical abortion and should be offered routinely, thus increasing women's choice. This offers reassurance that adverse events are rare during medical abortion in the late first trimester. Medical abortion is an effective and acceptable method for termination of pregnancy in the late first trimester in a hospital under supervision.

REFERENCES

1. Jones R.K., Jerman J. Abortion incidence and service availability in the United States, 2014. *Perspect Sex Reprod Health*. 2017;49:17-27. doi: 10.1363/psrh.12015.
2. Ganatra B., Gerdtz C., Rossier C. Global, regional, and subregional classification of abortions by safety, 2010-14: estimates from a Bayesian hierarchical model. *Lancet (Lond Engl)* 2017;390:2372-2381. doi: 10.1016/S0140-6736(17)31794-4.
3. Raymond E.G., Shannon C., Weaver M.A., Winikoff B. First-trimester medical abortion with mifepristone 200 mg and misoprostol: a systematic review. *Contraception*. 2013;87:26-37. doi:10.1016/j.contraception.2012.06.011.
4. World Health Organization. World Health Organization; Geneva: 2014. Clinical practice handbook for safe abortion. [PubMed]
5. Jennifer K Hsia, Patricia A Lohr, Jeanette Taylor, Mitchell D Creinin Medical abortion with mifepristone and vaginal misoprostol between 64 and 70 days' gestation. *Contraception*. 2019 Sep;100(3):178-181.
6. Melissa J Chen, Mitchell D Creinin, Mifepristone With Buccal Misoprostol for Medical Abortion: A Systematic Review, *Obstetrics and Gynecology*, 2015 Jul;126(1):12-21.
7. World Health Organization. Strategy to accelerate progress towards the attainment of international development goals and targets related to reproductive health. *Reprod Health Matters*. 2005;13:11-18.
8. World Health Organization. WHO Consolidated Guideline on Self-Care Interventions for Health: Sexual and Reproductive Health and Rights. World Health Organization; 2019.
9. Ngo TD, Park MH, Shakur H, Free C. Comparative effectiveness, safety and acceptability of medical abortion at home and in a clinic: a systematic review. *Bull World Health Organ*. 2011;89:360-370.
10. Cameron S, Glasier A, Dewart H, Johnstone A. Women's experiences of the final stage of early medical abortion at home: results of a pilot survey. *J Fam Plann Reprod Health Care*. 2010;36:213-216.
11. Kopp Kallner H, Fiala C, Gemzell-Danielsson K. Assessment of significant factors affecting acceptability of home administration of misoprostol for medical abortion. *Contraception*. 2012;85:394-397.
12. Ender M, Lavelanet A, Cleeve A, Ganatra B, Gomperts R, Gemzell-Danielsson K. Telemedicine for medical abortion: a systematic review. *BJOG*. 2019;126:1094-1102. [DOI] [PMC free article] [PubMed] [Google Scholar]
13. Gomperts R. Women on Waves: where next for the abortion boat? *Reprod Health Matters*. 2002;10:180-183.
14. Jinfeng Qian J, Xiaoping Jing, Shuying Wu, Shurong Zheng, et al. Efficacy and safety of mifepristone combined with misoprostol for termination of pregnancy between 8 and 16 weeks of gestation. Randomized controlled trial. *Zhonghua Fu Chan Ke Za Zhi*. 2015 Jul;50(7):505-9.
15. Abbas D, Chong E, Raymond EG. Outpatient medical abortion is safe and effective through 70 days of gestation. *Contraception* 2015;92:197-9.
16. Rodriguez M.I., Seuc A., Kapp N. Acceptability of misoprostol-only medical termination of pregnancy compared with vacuum aspiration: an international, multicentre trial. *BJOG*. 2012;119:817-823.
17. WHO. 2012. Safe and unsafe induced abortion - Global and regional levels in 2008, and trends during 1995-2008. [Geneva, Switzerland]
18. B. Winikoff, I.G. Dzuba, E. Chong, et al. Extending outpatient medical abortion services through 70 days of gestational age. *Obstet Gynecol*, 120 (2012), pp. 1070-1076.
19. R. Peyron, E. Aubeny, V. Targosz, L. Silvestre, M. Renault, F. Elvik, et al. Early termination of pregnancy with mifepristone (RU 486) and the orally active prostaglandin misoprostol. *N Engl J Med*, 328 (1993), pp. 1509-1513.
20. B. Winikoff, I. Sivin, K. Coyaji, E. Cabesas, B. Xiao, S. Gu, et al. Safety, efficacy, and acceptability of medical abortion in China, Cuba, and India: a comparative trial of mifepristone-misoprostol versus surgical abortion. *Am J Obstet Gynecol*, 176 (1997), pp. 431-437.
21. Hamoda H, Ashok PW, Flett GM, Templeton A. Medical abortion at 9-13 weeks gestation: a review of 1076 consecutive cases. *Contraception* 2008;71:327-32.
22. Lalitkumar S, Bygdeman M, Gemzell-Danielsson K. Midtrimester induced abortion: a review. *Hum Reprod Update* 2007;13:37-52.
23. Chen Q.-j., Zhang J., Huang Z.-r. Mifepristone in combination with misoprostol for the termination of pregnancy at 8-16 weeks' gestational age: a multicentre randomized controlled trial. *J Reprod Contracept*. 2013;24:101-113. [Google Scholar]