Journal of Advanced Medical and Dental Sciences Research

@Society of Scientific Research and Studies ***NLM ID:*** *101716117*

Journal home page: www.jamdsr.com doi: 10.21276/jamdsr Index Copernicus value = 85.10

(e) ISSN Online: 2321-9599; (p) ISSN Print: 2348-6805

Original Research

Mifepristone in induction of first-trimester miscarriage

[1]Nitika, [2]Kirti Jain

[1]Assistant Professor, Department of Obs & Gynae, Venkateshwara Institute of Medical Sciences, Gajraula, Uttar Pradesh, India;
[2]Assistant Professor, Department of Obs & Gynae, K M Medical College & Hospital, Mathura, Uttar Pradesh, India;

ABSTRACT:
Background: The most typical clinical signs of spontaneous miscarriage are vaginal bleeding and the spontaneous ejection of an embryo or fetus from the uterus. The present study assessed Mifepristone's efficacy in induction of first-trimester miscarriage. **Materials & Methods:** 96 patients with first-trimester miscarriage prior to the 14th week of gestation were given repeatable doses of 800 mcg misoprostol vaginally. Parameters such as type of miscarriage, gravidity, parity, number of doses, time of drug administration, and side effects were recorded. **Results:** Out of 95 cases, 74 had successful induction and 21 had unsuccessful induction. The difference was significant (P< 0.05). The time from the previous delivery was 3.25 years and 3.85 years in successful and in unsuccessful induction respectively. The number of miscarriages was 1 in 63 and 13 respectively, and >2 in 12 and 8 respectively, missed abortion was seen in 65 and 14 and blighted ovum in 18 and 6 respectively. Previous surgical interventions on uterus was seen in 10 and 7 in successful and unsuccessful induction respectively. The difference was significant (P< 0.05). **Conclusion:** First-trimester abortion can be effectively and safely treated with pharmacological induction with Misoprostol.
Key words: Abortion, Misoprostol, Delivery

Received: 11 December, 2020 Accepted: 13 January, 2021

Corresponding author: Kirti Jain, Assistant Professor, Department of Obs & Gynae, K M Medical College & Hospital, Mathura, Uttar Pradesh, India

This article may be cited as: Nitika, Jain K. Mifepristone in induction of first-trimester miscarriage. J Adv MedDent Scie Res 2021;9(2): 159-161.

INTRODUCTION

Nearly 25% of women of reproductive age experience first-trimester miscarriage, which is defined as pregnancy failure up to 13 full weeks.[1] The most typical clinical signs of spontaneous miscarriage are vaginal bleeding and the spontaneous ejection of an embryo or fetus from the uterus.[2] In cases with light to moderate bleeding, expectant management is sufficient. Fetal or placental tissues may, however, occasionally stay in the uterine cavity following an incomplete, unavoidable, or missed abortion. Expectant management, dilatation and curettage (D&C), and pharmacological induction of abortion with misoprostol are all options in such circumstances.[3]

Mifepristone is costly and is unavailable in many settings. Mifepristone, also referred to as RU486, was first registered for induction of early first-trimester abortion in China and France in 1988. It is now widely registered for use in numerous countries, including several countries in the European Union and the United States. By the year 2000, more than three million women had used mifepristone for pregnancy termination, including 620,000 in Europe.[4]The use of misoprostol alone, which is affordable and frequently used for different obstetric and gastrointestinal purposes, can be an essential alternative choice for women who are unable to access mifepristone.[5]Medical abortion with mifepristone 200 mg orally and misoprostol 800 mcg vaginally or buccally is highly effective through 63 days of gestation.[6] The present study assessed Mifepristone's efficacy in induction of first-trimester miscarriage.

MATERIALS & METHODS

The present study consisted of 96 patients with first-trimester miscarriage prior to the 14th week of gestation admitted to the department of Gynaecology

& Obstetrics. All were subjected to ultrasound and findings such as an intrauterine sac with a diameter >20 mm without a fetal pole or yolk sac, the presence of fetal pole without a heartbeat or crown-rump length (CRL) at least 6 mm with no cardiac activity, and no change at the time of a second ultrasound one week later made the diagnosis. Patients were included after obtaining their written consent.

Data such as name, age etc. was recorded. All patients were given repeatable doses of 800 mcg misoprostol vaginally. Parameters such as type of miscarriage, gravidity, parity, number of doses, time of drug administration, and side effects were recorded. Results thus obtained were subjected to statistical analysis. P value less than 0.05 was considered significant.

RESULTS

Table I Distribution of cases on the basis of induction

Induction	Number	P value
Successful induction	74	0.01
Unsuccessful induction	21	

Table I, graph I show that out of 95 cases, 74had successful induction and 21 had unsuccessful induction. The difference was significant (P< 0.05).

Graph I Distribution of cases on the basis of induction

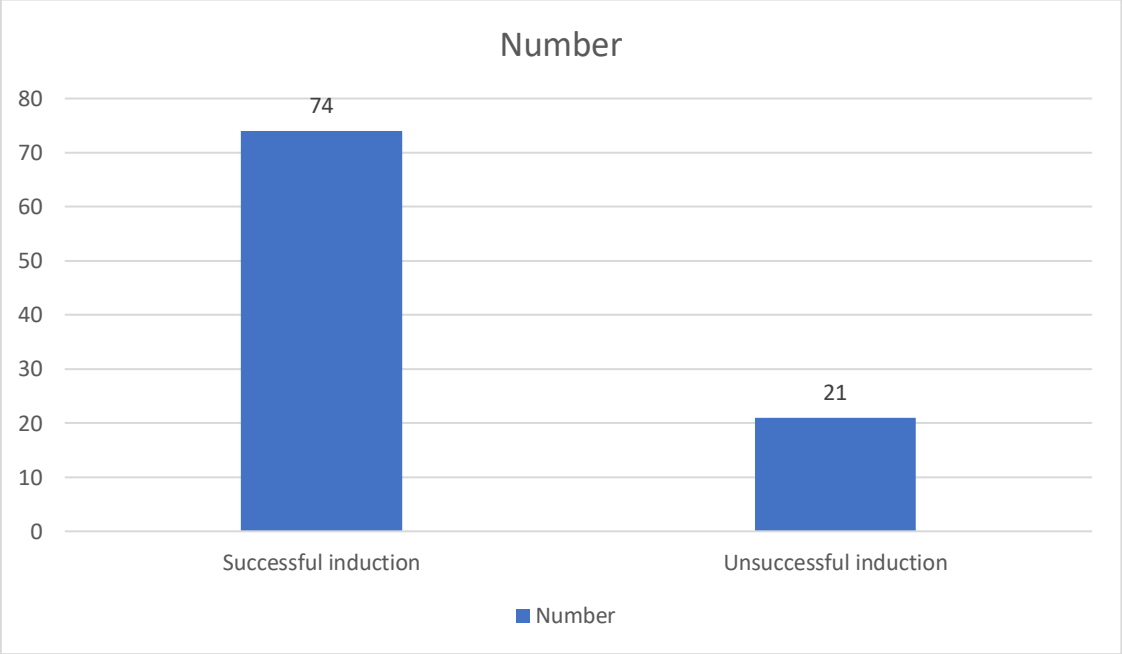

Table II Baseline characteristics

Parameters	Variables	Successful induction	Unsuccessful induction	P value
Time from previous delivery (years)		3.25	3.85	0.64
No. of miscarriages	1	63	13	0.38
	>2	12	8	
Type of miscarriage	Missed abortion	65	14	0.02
	Blighted ovum	10	7	
Previous surgical interventions on uterus		12	4	0.01

Table II shows that the time from previous delivery was 3.25 years and 3.85 years in successful and in unsuccessful induction respectively. The number of miscarriages was 1 in 63 and 13 respectively, and >2 in 12 and 8 respectively, missed abortion was seen in 65 and 14 and blighted ovum in 18 and 6 respectively. Previous surgical interventions on uterus was seen in 10 and 7 in successful and unsuccessful induction respectively. The difference was significant (P< 0.05).

DISCUSSION

Medical abortion offers an important alternative to surgical abortion.[7] Misoprostol for termination of pregnancy (TOP) has been widely used because of its low cost, effectiveness and drug stability in ambient temperature. In many countries, women use these medications on an outpatient basis and expel the pregnancy at home. Medical abortion is as safe, effective and acceptable to women as in-clinic care.[8] Recent research shows that the upper gestational age

limit for outpatient regimens using mifepristone and buccal misoprostol may be extended to 70 days of gestation without a clinically significant reduction in effectiveness compared to 57–63 days of gestation.[9] Similar efficacy is reported in a small number of cases with sublingual misoprostol.[10]The present study assessed Mifepristone's efficacy in induction of first-trimester miscarriage.

We found that out of 95 cases, 74 had successful induction and 21 had unsuccessful induction. Daponte et al[11]evaluated the safety and efficacy of the proposed misoprostol regimen in women with previous multiple caesarean sections. This was a retrospective cohort study of 21 women with more than one caesarean section who underwent termination of pregnancy (TOP) with 400 mug of vaginal misoprostol followed by 200 mug/6 hours (max 800 mug). The complete abortion rate was 12/21 (57.14%) and six (28.57%) women had an incomplete abortion. Three TOPs (14.29%) failed. In the first trimester group, only 3/9 (33.34%) aborted completely, while (9/12) 75% of second trimester patients aborted completely. There were no major complications. The proposed regimen is considered safe and reasonably effective in second-trimester TOPs in women with previous multiple cesarean sections. In first-trimester patients, the possibility of manual vacuum aspiration (MVA) should be discussed during counseling, or a higher dose should be used as the effectiveness is low.

We observed that the time from previous delivery was 3.25 years and 3.85 years in successful and in unsuccessful induction respectively. The number of miscarriages was 1 in 63 and 13 respectively, and >2 in 12 and 8 respectively, missed abortion was seen in 65 and 14 and blighted ovum in 18 and 6 respectively. Previous surgical interventions on uterus was seen in 10 and 7 in successful and unsuccessful induction respectively. Zikopoulos et al[12]compared the efficacy of vaginal misoprostol for abortion in women at a gestational age of <42 days and in women at a gestational age of 42–56 days. A total of 160 women seeking medical termination of a pregnancy of <56 days were enrolled. Medical termination was performed using 800 μg of vaginal misoprostol, repeated every 24 hours for a maximum of three doses. The overall complete abortion rate was 91.3%. In group A (gestation <42 days) complete abortion occurred in 96.3% of women, whereas in group B (gestation = 42–56 days) complete abortion occurred in 86.3% of women ($P < 0.025$). The two groups did not differ significantly with respect to side effects (incidence of pain, bleeding, nausea, diarrhoea, fever and headache). Women who had aborted successfully were significantly more satisfied with the method compared with women who did not. The vaginal misoprostol-alone regimen is highly effective for women seeking medical abortion of pregnancies of ≤56 days. However, better efficacy may be achieved at a gestational age of <42 days.

CONCLUSION

Authors found that first-trimester abortion can be effectively and safely treated with pharmacological induction with Misoprostol.

REFERENCES

1. Borgatta L, Mullally B, Vragovic O, Gittinger E, Chen A. Misoprostol as the primary agent for medical abortion in a low-income urban setting. Contraception 2004;70:121–6.
2. Bugalho A, Faúndes A, Jamisse L, Usfá M, Maria E, Bique C. Evaluation of the effectiveness of vaginal misoprostol to induce first trimester abortion. In: Contraception; 1996:244–6. 17.
3. Nayki U, Taner CE, Mizrak T, Nayki C, Derin G. Uterine rupture during second trimester abortion with misoprostol. Fetal Diagnosis and Therapy 2005;20:469 – 471.
4. Nigam A, Singh VK, Prakash A. 2006. Vaginal vs. oral misoprostol for mid-trimester abortion. International Journal of Gynecology and Obstetrics 2006;92:270 – 271.
5. Pongsatha S, Tongsong T. Misoprostol for second-trimester termination of pregnancies with prior low transverse caesarean section. International Journal of Gynecology and Obstetrics 2003;80:61 – 62.
6. Carbonell JL, Varela L, Velazco A, et al. The use of misoprostol for abortion at < or = 9 weeks' gestation. The European journal of contraception & reproductive health care: the official journal of the European Society of Contraception 1997;2:181–5.
7. Creinin M, Vittinghoff E. Methotrexate and misoprostol vs misoprostol alone for early abortion. A randomized controlled trial. In: Jama; 1994:1190–5.
8. Hentzen JEKR, Verschoor MA, Lemmers M, Ankum WM, Mol BWJ, van Wely M. Factors influencing women's preferences for subsequent management in the event of incomplete evacuation of the uterus after misoprostol treatment for miscarriage. Hum Reprod. 2017;32: 1674–1683.
9. McGee TM, Diplock H, Lucewicz A. Sublingual misoprostol for management of empty sac or missed miscarriage: The first two years' experience at a metropolitan Australian hospital. Aust N Z J ObstetGynaecol. 2016;56: 414–419.
10. Sotiriadis A, Makrydimas G, Papatheodorou S, Ioannidis JP. Expectant, medical, or surgical management of first trimester miscarriage: a meta-analysis. Obstet Gynecol. 2005;105(5 Pt 1): 1104–13.
11. Daponte A, Nzewenga G, Dimopoulos KD, Guidozzi F. Pregnancy termination using vaginal misoprostol in women with more than one caesarean section. J ObstetGynaecol2007;27:597–600.
12. Zikopoulos KA, Papanikolaou EG, Kalantaridou SN, Tsanadis GD, Plachouras NI, Dalkalitsis NA, Paraskevaidis EA. Early pregnancy termination with vaginal misoprostol before and after 42 days gestation. Human reproduction. 2002 Dec 1;17(12):3079-83.