Methotrexate And Misoprostol For Early Termination Of Pregnancy

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Citation

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Abstract

Objectives- To evaluate the efficacy and side effects of intramuscularly administered 50 mg/m^2 methotrexate along with 800 μg of vaginal misoprostol in the termination of early pregnancy of ≤ 56 days.
Study Design- It is a prospective study. This study was carried out in 50 women attending the out patient department of obstetrics and gynecology at Pt. B. D. Sharma PGIMS, Rohtak.
Results- Mean age of the patients and the mean period of gestation was 26.5± 3.6 years and 44.1±5.1 days respectively. The success rate was 58% who had complete abortion. After methotrexate administration 44% of the cases reported one or more side effects and after misoprostol administration 60% of the women had one or more side effects.
Conclusion- Side effects were mild and transient and did not require any immediate medical attention. Success rate was 58% and could have been better with a variation in present protocol. Larger studies with a slight change in the protocol of drug administration are required to evaluate the success rate of misoprostol and methotrexate administration.

INTRODUCTION

Surgical abortion is one of the most frequently performed operation in the world. Approximately 2.5% [1] of all women in the reproductive age have induced abortions each year. The common early complications of surgical abortions include uterine perforation, hemorrhage, cervical lacerations and anesthetic mishaps. The late complications are infection, retained products, thromboembolic phenomenon, anemia and often-subsequent infertility. The average incidence of complications is 1% and of failure is 0.5% [2]. In the last decade medical abortion has emerged as a realistic alternative to surgical approach for early abortions [3]. Medical abortion avoids the inherent risks of surgery and anesthesia. It can be performed very early in pregnancy under full privacy [4] and is better accepted than surgical abortion.

Methotrexate combined with misoprostol has been under investigation since 1993 with results similar to mefipristone regimens for pregnancies upto 49 days gestation [5]. Medical abortion with methotrexate and misoprostol is safe, effective and can be used in a community setting [6]. The number of studies reporting the use of methotrexate and misoprostol in termination of early pregnancy are limited. Majority of these studies are from developed countries. To the best of our knowledge no Indian study is available. The present study was therefore planned to evaluate the efficacy and side effects of intramuscularly administered methotrexate along with vaginal misoprostol in the termination of early pregnancy of ≤ 56 days.

MATERIAL AND METHODS

This study was carried out in women attending the out patient department of obstetrics and gynecology at Pt. B. D. Sharma PGIMS, Rohtak. A total of 50 women were included in the study. Inclusion criteria were- age ≥ 18 years, gestational age ≤ 56 days on day 1, indication of MTP as per guidelines of the 1971 MTP Act and willingness to comply with the schedule for follow-up. The women who used prenatal vitamins or folic acid, or in whom Hemoglobin was less than 9 gm/ dL were excluded from the study.

Women selected for study were explained the nature of study, its risks, benefits and visiting schedule. Informed written consent and a detailed case history were taken from all the patients. Medical and obstetrical examination was done. Routine investigations like haemoglobin , urine complete examination and ABO and Rh typing for blood grouping was done in all the cases. Estimated gestational age was based on last menstrual period (LMP), confirmed by

vaginal ultrasound done on day 1.

Injection methotrexate 50 mg/m ^{2} was given intramuscularly on day one. If woman was Rh negative, she received 50µg Rh immunoglobulins intramuscularly. Women were asked to return on day 5 for vaginal administration of 800 µg of misoprostol. On day 6, all women underwent an ultrasound examination and if no gestational sac or products were detected, then the cases were considered as success. Remaining cases were considered as failure and suction and evacuation was performed. All subjects were questioned on day 6 for detailed account of side effects, abdominal cramps, headache, dizziness, nausea, vomiting, oral ulcers etc. All findings were recorded and the results were compiled to evaluate the efficacy of medical abortion with the above protocol. The women were then counseled regarding contraception.

OBSERVATION AND RESULTS

Results are shown in tables I- IV.

Figure 1

Table 1: Distribution of women as per age, parity and period of gestation

Age (Years)	Number (%)	Parity	Number(%)	Gestation period (Days)	Number (%)
< 20	2 (4%)	Para 0	2 (4%)	29-35	2 (4%)
21-25	21 (42%)	Para 1	6 (12%)	36-42	18 (36%)
26-30	21 (42%)	Para 2	32 (64%)	43-49	23 (46%)
31-35	5 (10%)	Para 3	8 (16%)	49-56	7 (14%)
36-40	1 (2%)	Para 4	2 (4%)	>56	0

Figure 2

Table 2: Side effects of methotrexate and misoprostol

Side effects	After methotrexate No of women (%)	After misoprostol No of women (%)
Insignificant	28 (56%)	20 (40%)
Nausea	6 (12%)	9 (18%)
Vomiting	0	6 (12%)
Diarrhea	2 (4%)	14 (28%)
General Weakness	9 (18%)	7 (14%)
Headache	6 (12%)	1 (2%)
Dizziness	4 (8%)	0
Stomatitis	0	0
Fever / chills	0	8 (16%)

Figure 3

Table 3: Results of medical abortion

Results	No of women	Percentage (%)
Complete Abortion	29	58
Incomplete abortion	13	26
? Missed Abortion	8	16
Total	50	100

Figure 4

Table 4: Acceptability of method in successful and unsuccessful cases

Acceptability	Successful Cases (n=29)	Unsuccessful Cases (n=21)	Total (n=50)
Yes	24 (82.8%)	7 (33.3%)	31 (62%)
No	5 (17.2%)	14 (66.7%)	19 (38%)

DISCUSSION

Mean age in study was 26.5± 3.6 years (Table I). In the studies of Crenine & Darney [7] and of Wiebe [4] the mean age was 29.7 years and 28.2 years respectively. Relatively lower mean age in present study is due to younger age at marriage and conception in India. The mean parity of 2.0±0.8 (Table I) in this study probably indicates that women opting for abortion have completed their family and wanted to limit their family size. The mean period of gestation was 44.1±5.1 days (Table I) ranging from 35-55 days. Wiebe [4] studied 100 cases and mean period was almost comparable to the study of Crenin [7] .

After methotrexate administration 22 cases (44%) cases reported either one (18 cases) or more (4 cases) side effects (TableII). Commonly reported among these were generalized weakness (18%), nausea (12%) and headache (12%). After misoprostol administration 30 cases (60%) had one or more side effects, diarrhea (28%), nausea (18%), fever/chills (16%), generalized weakness (14%), vomiting (12%) and headache (2%) (Table II). The wide variation in the incidence of the side effects of methotrexate and misoprostol reported in various studies [6,7,8,9] indicate that the recording of complaints from the cases is subjective and does not follow a fixed pattern.

The success rate in present study was 58% (Table III) who had complete abortion as compared to the study by Wiebe [4] in which it was 48% with 100 participants. Most of the women who had incomplete abortion in the present study had gestational products lying in cervical canal or vagina and could be removed with minimal manipulation. This raises the possibility that the success rate in present study

could have been higher had the results been recorded after a long observation period after misoprostol administration or by giving a repeat dose of misoprostol.

The overall acceptance rate among the women participating in the present study was 62% (table IV). Among the 29 successful cases, the acceptance rate was 82.8% as compared to 83.5% in Wiebe [4] study. Out of the 21 unsuccessful cases, only 7 (33%) were willing for a medical method of termination of pregnancy. Most of these were the women who had incomplete abortion and in whom the retained products of gestation could be evacuated easily, with minimal manipulation.

CONCLUSION

With 50 mg/m [2] of intramuscular methotrexate and 800 µg of intravaginal misoprostol side effects were mild and transient and did not require any immediate medical attention. Success rate was 58% and could have been better with a slight variation in present protocol either by increasing the observation period after misoprostol administration or by giving the repeat dose of misoprostol. Thus, in Indian population, where the usage of contraceptive method is low, medical abortion has a good scope in larger interest of Indian women. Larger studies with a slight change in the protocol of drug administration are required to evaluate the success rate of misoprostol and methotrexate administration.

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References

1. Centers for Disease Control: Abortion Surveillance 1979-80. CDC 1983.
2. Avrech OM, Golan A, Weinraub Z, Bukovsky I, Capsi E. Mifepristone (RU 486) alone or in combination with a prostaglandin analogue for termination of early pregnancy: a review. Fertil Steril 1991; 56:385-93.
3. Kahn JG, Becker BJ, Maclsaa L, Amory JK, Newhaus J, Crenin MD, et al. The efficacy of medical abortion: A meta-analysis. Contraception 2000; 61:29-40.
4. Wiebe ER. Abortion induced with methotrexate and misoprostol. Can Med Assoc J 1996; 154:165-170.
5. Von Hertzen H. Rearch on regimens for early medical abortion. J Am Med Women Assoc 2000; 55(3S):133-6,150.
6. Borgatta L, Burnhill MS, Tyson J, Leonhardt KK, Hausknecht RU, Haskell S. Early medical abortion with methotrexate and misoprostol. Obstet Gynecol 2001; 97(1):11-6.
7. Crenin MD. Randomized comparison of efficacy, acceptability and cost of medical versus surgical abortion. Contraception 2000; 62:117-24.
8. Ozeren M, Bileki C, Aydemir V, Bozkaya H. Methotrexate and misoprostol used alone or in combination for early abortion. Contraception 1999; 59:389-94.
9. Crenin MD, Vittinghoff E, Keder L, Darney PD, Tiller G. Methotrexate and misoprostol for early abortion: a multicenter trial - safety and efficacy. Contraception 1996; 53:321-7.

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