

# Vaginal and rectal misoprostol for first trimester termination of pregnancy

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**Background:** To compare the effectiveness of vaginal misoprostol with rectal misoprostol for termination of first trimester pregnancy. Prospective comparative study done on 138 women with unwanted pregnancy.

**Methods:** This study was conducted in Vinayak hospital Kathmandu, from April 2005 to March 2006 (Baisakh 2062- Chaitra 2062) i.e. one year. A total of 138 women with unwanted pregnancy of 6-12 weeks, and only those who agreed to participate were included in the study after written consent. Patients with scarred uterus following previous cesarean section, myomectomy or hysterotomy, known allergic to misoprostol, diarrhea, and fever, age below 16 and above 45 were excluded from the study. Abortion was induced with 800µg of mesoprostol in alternative patients vaginally in posterior fornix (group A) and per rectally (group B)

**Result:** The age of the patients ranged from 16 -42 years and parity primi to sixth gravida.

In group A 54 patients out of 69 (78.2%) expelled products of conception after first dose of misoprostol within 24 hours. 15 (21.7%) patients required repeat insertion of the drug. Of these 8 expelled within the next 24 hours, whereas 7 (10.1%) patients needed manual vacuum aspiration.

In group B out of the 69 patients 59 (85.5%) expelled product of conception within 24 hours of insertion of mesoprostol per rectally while the rest 10 (14.4%) required re insertion of the drug. Out of these 10 cases 6 expelled within next 24 hours and four (5.8%) needed manual vacuum aspiration. Side effects of misoprostol: diarrhea, nausea, vomiting, headache and rigor were found to be more in rectal group than the vaginal.

**Conclusion:** For termination of first trimester pregnancy, rectal route of mesoprostol is more effective than the vaginal route, however the side effects like diarrhea pyrexia, headache were more in rectal group.

**Key words:** misoprostol, termination of pregnancy, unwanted pregnancy.

## Introduction

World wide there are 115,000-250,000 maternal deaths every year as direct consequence of unsafe abortion practices, corresponding to 300-550 such maternal deaths every day. Majority of these deaths can be avoided by using relatively safer methods.<sup>1</sup>

Medical methods of abortion were found to be more effective when the antiprogesterin Mifepristone was used as means for early termination of pregnancy. Its effectiveness was

found to be better with the additional use of a prostaglandin analogue. Mesoprostol prostaglandin E1 analogue which is stable at room temperature and administered orally in tablet form was shown to be highly effective when administered after Mifepristone for the induction of early abortion<sup>2</sup>.

Misoprostol can be used by different routes such as, sub lingual, oral, vaginal, rectal for termination of pregnancy.

In 1987 Rabe et al were the first to use Misoprostol as an abortifacient, although they obtained a low complete abortion

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rate Bugalho et al, using 800µgm misoprostol doses, obtained 92% complete abortion for up to 6 wks gestation<sup>3</sup>.

### Material and Methods

Patients who came with unwanted pregnancy of 6-12 wks gestation were enrolled in the study. The patients with scarred uterus such as previous caesarean section, myomectomy or hysterotomy and patients with, allergy to misoprostol, fever, diarrhoea age below 16 and above 40 were excluded from the study.

Patients were divided in two groups; group A, in which Misoprostol 800µg was inserted per vaginally, and group B in which misoprostol inserted per rectally.

Patients were allocated in two groups alternatively.

Before insertion of misoprostol patients were counseled about the procedure, possibility of long time taken, chances of failure, possibility of bleeding and possible side effects such as pyrexia, diarrhea, and vomiting, etc. written consent was taken and patients who agreed to participate were included in study. Pregnancy was confirmed by spot test. About the better option to confirm intrauterine pregnancy by USG was explained but only few agreed to do this investigation.

Before insertion of misoprostol in vaginal group, vagina was cleaned with distill water and patient in rectal group were asked for defecation. Misoprostol 800µg in first group was inserted in posterior fornix while in rectal group it was inserted in rectum as above as possible by index finger and 5 cc of water was installed in rectum. Patients were sent home with instructions to come to the center in case of any complications, or after 24 hrs. If there was no bleeding misoprostol was repeated after 24 hours. In case of severe bleeding, incomplete abortion or failed abortion 24 hours of reinsertion of misoprostol manual vacuum aspiration was done. As this study was done in private clinic further observation for self expulsion could not be done after 48 hours. After abortion patients were asked to come for follow up after 1 month or SOS but only 13 % returned.

### Result

The age of the patients ranged from 16-42 years, 19(14%) were teenagers while 5(3.6%) were above 40 years of age. Parity ranged from primi to sixth gravida. Among 138 patients 23(16.6%) patients were unmarried.

In group A (vaginal misoprostol) from 69 patients 54(78.2%) patient expelled within 24 hours of insertion of first dose 800µg misoprostol. Bleeding started after 7- 23 hours of insertion of drug with average of 18 hours. Two of these

patients had incomplete abortion with significant bleeding and required manual vacuum aspiration. Fifteen (21.7%) patients failed expulsion and same dose of misoprostol was repeated; eight of them expelled within next 24 hours but seven (10.1%) needed manual vacuum aspiration.

In group B (rectal misoprostol), out of 69 patients 59(85.8%) expelled within 24 hours of insertion of first dose of misoprostol. In these patients bleeding started after 6-21 hours of misoprostol insertion, with average of 14.3 hours. In this group also two patients required manual vacuum aspiration for incomplete abortion, while 10 out of 69(14.4%) required reinsertion of the drug six of them expelled within next 24 hours and only 4 (5.8%) patients needed manual vacuum aspiration for failed abortion.

Side effects of the drug were found more in group B. These side effect included diarrhea, vomiting, pyrexia, headache and rigor.

**Table 1.** Side effects in both groups

Side effects	group A (n=69)	Group B (n=69)
• Diarrhea	6(4.14%)	17 (11.73%)
• Vomiting	9 (6.21%)	11(7.79%)
• Pyrexia	11(7.79%)	19(13.11%)
• Headache	3(2.07%)	4(2.76%)
• Rigor	1(0.69%)	3(2.07%)

As shown in the table the number of patients with side effect was more in group B than in group A.

### Discussion

Many studies have been carried to see the effects of misoprostol for termination of pregnancy in first and second trimester. These studies were done either misoprostol alone or along with mifepristone or some other drugs; by oral, vaginal route however only few literatures on rectal route administration of this drug for this purpose are available.

A total of 120 women with period of gestation gestations from 64 to 84 days received 800µg of vaginal misoprostol every 24 hours for maximum of three doses, the successful complete abortion rate 87% of the cases. A group of 141 women with less than 70 days of pregnancy received up to three doses of 800µg of misoprostol per vaginally every 48 hours. Failure was defined as the need for surgical abortion and success as the complete expulsion of the products of conception. In this study success rate was 93.6%. In this study side effects nausea was found in 24%, vomiting 24.7%, diarrhea 58.2, dizziness 20.5%, migraine 13%, fever 34.9%, chills 56.8%, rashes 1.4% and pelvic pain 93.2% of the patients 4.

In comparative study of vaginal vs. rectal misoprostol in 60 women in first trimester of pregnancy with 800µg of single dose misoprostol, complete failure was defined as ultrasound evidence of retained gestational sac 24 h after the drug administration. A statistically significant difference was obtained in the success rate between two groups ( $p=0.02$ ) i.e. complete abortion in 12 patient out of 30 in rectal group and 21 out of 30 in vaginal group. The abortion intervals after rectal vaginal treatment were  $15.0 \pm 3.3$  hours and  $7.2 \pm 2$  hours respectively 5.

In this study success rate in vaginal group was 87% after 48 hours and in rectal group 91.3%. As mentioned in the above study the vaginal route had more success rate but in this study result was just reverse (rectal group had better success rate than the vaginal). This may be due to the reason that in this study the rectal group of patients were told to defecate before insertion of the drug per rectally and 5 ml of distilled water was instilled after insertion of it.

The interval between the insertion of drug and abortion was longer in this study however the comparative interval between rectal and vaginal groups it was shorter in rectal group in both the studies. Side effects like nausea, vomiting, headache, diarrhea, pyrexia were less in vaginal group of this study, but they were less in comparison to other studies.

## Conclusion

Misoprostol administered by rectal route for pregnancy termination at 6-12 weeks had higher success rate however side effects such as diarrhea, vomiting, headache, pyrexia and rigor was seen more in this group.

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