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Original Article

Role of vaginal misoprostol in second trimester termination of pregnancy

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Abstract

Objective: To find out the safety and effectiveness of vaginal misoprostol for second trimester termination of pregnancy. *Methods*: This is a prospective study involving 30 women with 12-20 weeks gestation requesting termination. Four hundred microgram misoprostol was inserted in the vagina followed by 200µg every four hourly. Mean age of the women was 25.96 years. Mean gestational age was 15.66 weeks. Chi-square test was used for statistical analysis. *Results:* 93.3% of women aborted within 16 hours without any significant side effects. *Conclusion:* Vaginal misoprostol is a very effective and safe method for second trimester pregnancy termination. It reduces the time and the cost of second trimester pregnancy termination.

Key words: misoprostol, second trimester termination of pregnancy, prostaglandin, medical termination of pregnancy

Introduction:

In developing countries like India, contraceptive methods are not widely practiced. In many cases either the pregnancy is unwanted because of social or economic reasons, or women conceive during lactation amenorrhea with a previous child often less than one year old. The aim of this study is to study the efficacy and safety of intravaginal misoprostol in second trimester pregnancy termination. Among prostaglandins, prostaglandin E_1 and E_2 analogues have been tried in different doses and by various routes for second trimester abortion[2-6]. Misoprostol, a synthetic 15-deoxy 16-hydroxy 16-methyl analogue of PGE_1 being much cheaper, safe and capable of being easily stored at room temperature has been tried by both oral and vaginal routes in different dosage regimens with varying degrees of success[2-6]**.** Oral misoprostol is associated with faster achievement of peak levels but the effect lasts for less time and it is also associated with more side effects. However vaginal route is associated with slower peak level achievement but the effect lasts longer with fewer side effects[3-5]. We have used the vaginal route in our study.

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Material and methods:

Thirty healthy women, between age 18 to 38 years, with 12-20 weeks of pregnancy, requesting second trimester termination of pregnancy, were included in this study. The indications for termination were in con-

sonance with the MTP Act.

Written informed consent was taken from all the women. Sonography was done in women whenever necessary for deciding maturity of the fetus. Ethical clearance was obtained from the hospital ethical committee.

Exclusion criteria:

- Women with baseline hemoglobin <8gm/dl.
- Previous Cesarean section.
- Maternal local or systemic infection.
- Maternal pulmonary, hepatic renal or cardiovascular disease.
- Women with any degree of cervical dilatation.

Initially 400 µg of misoprostol was kept vaginally followed by 200 µg every four hourly till abortion. Women's vital signs were monitored every two hours and the process of abortion was assessed by vaginal examination four hourly during each dose administration. Information about side effects was taken from each woman including nausea, vomiting, diarrhoea, fever and abdominal pain. After the passage of abortus, check curettage was carried out in all women in a routine manner under sedation. Procedure related complications like uterine perforation, cervical tear or laceration were noted in few women. Perforation was due to uterine curettage. There was no case of rupture uterus. All the women were kept in hospital for 24 hours under observation. Those who were willing for permanent sterilization were considered for laparoscopic tubal ligation. On discharge they were asked to come for follow-up after a week or earlier if need arises. On follow-up, a pelvic examination was performed an all the women and an inquiry made of any abnormal bleeding or delayed side effects.

Results:

Table 1 shows age distribution in our study. Age ranged from 18 to 38 years. Maximum number (14/30, 46.6%) of women was in 26-30 year age group and mean age was 25.96 years. Twenty six women (86.6%) had gravidity of three or more and the mean gravidity was 2.8. Only one woman was a primigravida. The two common indications were previous child less than one year old (14/30, 46.6%) and social and economic reasons (46.6%14/30). One woman had eugenic indication and one had a medical indication. Table 2 shows the period of gestation. The mean gestation age was 15.66 weeks. Table 3 shows the relationship of induction abortion interval to the gestational age. Most of the women (50%) aborted between 6 and 8 hours, while 70% aborted within 10 hours and 96.6% within 16 hours. The mean induction abortion interval was 9.43±2.02 hours. There is no relationship between gestational age and induction abortion interval (P>0.5). Except occasional minor side effects like nausea, vomiting and diarrhoea, no major drug related side effects were observed in the study. The average total dose of misoprostol in our study was 666±315microgram.

Table 1.
Age distribution (n=30)

Age in years	Number (percentage)
≤ 20	3(10%)
21-25	9(30%)
26-30	14(46.6%)
31-35	3(10%)
>35	1(3.3%)
	Mean age 25.96 years.

Table 2.
Period of gestation (n=30)

Weeks	Number (percentage)
12-14	9 (30%)
14-16	8 (26.6%)
16-18	7 (23.4%)
18-20	6 (20%)
	Mean gestational age 15.66 weeks.

Discussion:

Currently the most widely used method of termination of pregnancy during second trimester are vaginal administration of PGE2 suppositories and extra or intra amniotic ethacridine lactate instillation. PGE2 suppositories are associated with a high frequency of gastrointestinal side effects[2] while ethacridine lactate has a longer induction abortion interval[8]. In such a context, we found this regime of vaginal administration of 400µg misoprostol followed by 200µg 4 hourly very effective for second trimester pregnancy termination.

Table 3.
Induction abortion interval.

Weeks	4-6 hr	6-8 hr	8-10 hr	10-12 hr	12-16 hr	16-20 hr	>20 hr	Total
12-16	1	11	3	-	2	-	-	17
16-20	-	4	2	2	4	-	11	3

(P>0.5, Chi square= 0.044, Mean induction abortion interval 9.43±1.01 (SD) hours.

Mean induction abortion interval in our study was 9.43±2.02 hours which is comparable to 12-16 hours in other studies[1,3,6,7]. Thus vaginal misoprostol is found to be an efficient and time saving drug for second trimester pregnancy termination. Drug related side effects and procedure related complications were very low, which is comparable to different studies[1,3,7]. In our study 96.6% women aborted within 20 hours, which is comparable to about 90% reported by other studies[1,3,6].

Conclusion:

Vaginal misoprostol is a safe effective method for second trimester pregnancy termination.

References

1. Jain JK, Mishell DR Jr. A comparison of intravaginal misoprostol with prostaglandin E2 for termination of second trimester pregnancy. *N Engl J Med 1994;331:290-3*.
2. Agarwal S, Chaturvedi B. An experience with misoprostol in second trimester MTP. *J Obstet Gynecol India 2002;52:52-3*.
3. Dickinson JE, Evans SF. A comparison of oral misoprostol with vaginal misoprostol administration in second trimester pregnancy termination for fetal abnormality. *Obstet Gynecol 2003;101:1294-9*.
4. Tang OS, Schweer H, Seyberth HW et al. Pharmacokinetics of different routes of administration of misoprostol. *Hum Reprod 2002;17:332-6*.
5. Khan RU, El-Rafaey H, Sharma S et al. Oral rectal and vaginal pharmacokinetics of misoprostol. *Obstet Gynecol 2004;103:866-70*.
6. Jain JK, Kuo J, Mishell DR Jr. Comparison of two dosing regimens of intravaginal misoprostol for second trimester pregnancy termination. *Obstet Gynecol 1999;93:571-5*.
7. Dickinson JE. Misoprostol for second trimester pregnancy termination in women with a prior cesarean delivery. *Obstet Gynecol 2005;105:352-6*.
8. Bhathena RK, Sheriar NK, Walvekar VR et al. Second trimester pregnancy termination using extra-amniotic ethacridine lactate. *Br J Obstet Gynaecol 1990;97:1026-9*.