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A Comparative Study of Second Trimester MTP With Use of Vaginal Misoprostol and Extra Amniotic Instillation of Ethacridine Lactate With PGE2 (Dinoprostone).

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ABSTRACT

In a randomised controlled study conducted at B.J. Medical College Pune, 100 patients undergoing second trimester medical termination of pregnancy (MTP)were included.

Methodology: Group A received tablets misoprostol 200 mcg vaginally every 6 hourly till abortion. Group B patients underwent extraamniotic instillation of 150 cc of ethacridine lactate with tablet dinoprostone. Patients were observed for induction abortion interval, completeness of abortion and complications.

Results: 100% success rate was observed in group A. Induction abortion interval was significantly less in group A. It was not affected by gestational age. In group B induction abortion interval goes on reducing as gestational age advances. Average dose of misoprostol required for complete abortion is 621.92 mcg. No major complications were noted in any group.

Conclusion: Misoprostol should be drug of choice for second trimester MTP as it is highly effective with significantly less induction abortion interval.

KEYWORDS : Second trimester MTP , Tablet Misoprostol , Ethacridine lactate , Tablet dinoprostone , Induction abortion interval.

Introduction

Extra amniotic instillation with or without PGE2 is a routinely used procedure for second trimester MTP . Tablet Misoprostol was studied for second trimester MTP.

Ethical committee approval was taken for conducting the study.

Aims and objectives

1. To compare effectiveness of intravaginal misoprostol (PGE1) to extra amniotic instillation with dinoprostone(PGE2) in second trimester abortion
2. To study and compare induction abortion interval in misoprostol and extra amniotic instillation with dinoprostone groups.
3. To study dose of misoprostol required for complete abortion.
4. To study adverse effects associated with above methods.

Materials and methods

Patients undergoing second trimester medical termination of pregnancy at B. J. Medical college and Sassoon General Hospital , Pune , during period January 2004 to December 2004 were enrolled in the study.

100 patients were selected and randomized into two groups.

Inclusion criteria –

Pregnant women between 12 to 20 weeks pregnancy desirous of termination of pregnancy.

Exclusion criteria

1. Patients with history of previous caesarean section , uterine surgery , uterine perforation in the past.
2. Patients with medical or surgical illness .
3. Patients with vaginal infection.

Methodology

Detail history and examination was carried out in patients wiiling for termination of pregnancy.

Gestational age was calculated by per abdominal and per vaginal examination. Patients with cervicitis and vaginitis were included after complete treatment of infection.

Following investigations were carried out

1. Haemoglobin
2. Urine for sugar and albumin
3. Blood group. Rh negative patients were given inj. Anti D after termination.
4. Ultrasound if required.

Written and informed consent was taken. Patients were randomized into two groups.

Group A – Misoprostol group.

Patients received Tablet Misoprostol 200 mcg intravaginally every six hours.

Group B – Ethacridine lactate with dinoprostone group.

Patients were shifted to operation theatre. 150 cc was Ethacridine lactate with tab dinoprostone (0.5 mg) was instilled into extra amniotic space through a Foley s Catheter.

Patients in both groups were monitored in ward for vital signs. Per vaginal examination was carried out every six hourly or when they complained of pain in abdomen , per vaginal watery or bloody discharge. Patients were shifted to abortion room when cervical dilatation was four centimeters or more associated with uterine contractions. Time of expulsion of fetus was noted.

Observations:

Age of patients in two groups was comparable.

Both groups matched for parity distribution.

Gestation age wise distribution was statistically comparable.

Table 1 Result of Induction

Result	Misoprostol (Group A)	Ethacridine lactate with PGE2 (Group B)
Successful	50 (100 %)	47 (94%)
Failure	00	03(06%)
Total	50	50

X2 =3.2 , Df =2 ,P> 0.05 Not significant .

Table 2 Induction Abortion Interval

Interval (Hours)	Misoprostol (Group A)	Ethacridine lactate with PGE2 (Group B)
00 – 10	07 (14 %)	00
11 – 20	39 (78 %)	22 (44%)
21- 30	03 (06 %)	15(30%)
31- 40	01 (02 %)	10(20%)
41 -48	00	00
> 48	00	03(06%)
Total	50	50

92 % women in Group A aborted within 20 hours.

74% women in Group B aborted within 30 hours.

Table 3 Effect of Gestational age (GA) on Mean Induction Abortion Interval

GA (weeks)	Misoprostol (Group A)		Ethacridine lactate with PGE2 (Group B)		Test of significance T test	
	No	Hr	No	Hr		
14	12	14.7+-6.7	07	36.86+11.0	P<0.001	H.S.
16	13	16+_5.4	16	25.56+11.2	P<0.01	S
18	11	14.64+_3.1	13	20.92+5.8	P<0.001	H.S.
20	14	15.71+_3.9	14	24.36+8.6	P<0.001	H.S.
Total	50	15.24	50	25.6	P<0.001	H.S.

There was no effect of gestational age on induction abortion interval in Group A .

Induction abortion interval significantly decreases in Group B as gestational age increases.

There is significant less time required for complete abortion with Misoprostol as compared to ethacridine lactate with PGE2.

Table 4 Dose of misoprostol required for complete abortion

Dose of misoprostol (micrograms)	Cases
200	00
400	13 (26 %)
600	26 (52 %)
800	10 (20 %)
1000	01 (02 %)

52 % patients aborted with 600 mcg of misoprostol.

26 % required only 400 mcg of misoprostol.

Table 5 Effect of Gestational Age On Result Of Induction

Gestational Age weeks	Misoprostol (Group A)		Ethacridine lactate with PGE2 (Group B)	
	Success	Failure	Success	Failure
14	12	00	05	02
16	13	00	15	01
18	11	00	13	00
20	14	00	14	00
Total	50 (100 %)	00	47 (94%)	03(06%)

100 % success rate is observed with Misoprostol for all gestational age groups.

At 14 weeks of gestation failure was seen in 2 out of 7 patients (28.5 % failure rate) in group B. In early gestational age success rate of misoprostol (group A) is better than

Ethacridine lactate with PGE2 (Group B).

Table 6

Side Effects	Misoprostol (Group A)	Ethacridine lactate with PGE2 (Group B)
Shivering	02 (04 %)	07(14%)
Cramps in abdomen	13 (26 %)	09(18%)
Nausea	03 (06 %)	06(12%)
Vomiting	01 (02 %)	03(06%)
Diarrhoea	02 (04 %)	03(06%)
Total	15 (30 %)	29(58%)

X2 = 4.71 , df = 2 , P >0.05

Not significant.

Abdominal cramps occurred in 26 % of misoprostol group. Shivering was more common in Group B.

Discussion:

In this prospective study patients in both groups were comparable with respect to age, parity and gestational age. The induction of abortion was said to be successful if patient aborted within 48 hours. 100% success rate was observed with group A. 06% failure rate was seen in group B, which was not statistically significant. In group A 92% cases aborted within 20 hours and 100% in 48 hours. Bebbington et al (2002) found 87% success rate with 400 mcg misoprostol every 4 hours with induction abortion interval of 19.6 hours(1). Sharada Agarwal (2002) reported 97% success rate with 200mcg misoprostol every 4 hours, with average induction abortion interval of 14.3 hours(4).

In group B, induction abortion interval changes from 36 to24 hours with increase in

gestational age from 14 to20 weeks. Average induction abortion interval is 25.6 hours.

There is significant chance of failure for gestational age of 14 weeks (28.5%).

Misoprostol is effective even in gestational age of less than 14 weeks where ethacridine

Lactate with PGE2 has a high failure rate.

Major complications were not detected in this study. Abdominal cramps due to strong uterine contractions are major side effects with misoprostol occurring in 26% of cases.

Nausea, vomiting, diarrhea occurred in 6 to 12 % cases. Y. Heratutya reported 15%, 16% and 22% rate of abdominal pain nausea vomiting in 4%, 12% and 20% patients with tablet misoprostol in doses of 200, 400 and 600 mcg respectively(5). Jain et al reported vomiting in 5% diarrhea in 2% and severe pain in 16% of cases(3). Corrected complication rate was less than 10% in Yaper study(6) and 14% in Gupta study(3).

Conclusion:

Misoprostol is 100% effective in second trimester abortion in 14 to 16 weeks where ethacredine lactate with PGE2 has a high failure rate. Induction abortion interval is significantly reduced up to 15.2 hours with misoprostol as compared to 25.6 hours with ethacredine lactate and PGE2. This reduces hospital stay as well as mental stress to the patient. Average dose of misoprostol required for complete abortion is 621.92 mcg (3 to 4 tablets of 200 mcg misoprostol). The side effects of misoprostol are tolerable to patients. Thus misoprostol should be first drug of choice in second trimester MTP as it is highly effective with minimal side effects and significantly less induction abortion interval.

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