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A STUDY ON COMPARISON BETWEEN BUCCAL MISOPROSTOL AND VAGINAL MISOPROSTOL IN SECOND TRIMESTER ABORTIONS IN A TERTIARY CARE CENTRE OF KARAD, MAHARASHTRA

Obstetrics and Gynecology

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ABSTRACT

Background: Misoprostol, a prostaglandin analogue, can be administered via oral, vaginal, sublingual, buccal and rectal routes, and is the main method of second trimester abortions. The present research was aimed to study the use of buccal misoprostol v/s vaginal misoprostol for second trimester termination of pregnancy in terms of efficacy, success rate, induction-abortion interval, side effects and patient's acceptability.

Methodology: This was a randomized controlled trial conducted on those cases who lie between 13-28 weeks of gestation of uterine pregnancy and admitted to the hospital for MTP or termination of pregnancy. Two groups were made in which among Group A 81 cases got Buccal misoprostol and in group B 81 cases got vaginal misoprostol.

Results: Successful abortion rate in the Buccal Misoprostol group was 75 (92.6) cases and in vaginal misoprostol group was 76 (93.8) cases ($p>0.05$). The mean Induction-Abortion interval of participants in Buccal misoprostol group was 37.6. ± 16.9 hours while in vaginal misoprostol was 26.1 ± 14.2 hours ($p<0.05$). Acceptability of Buccal Misoprostol was 75 (92.6) cases while vaginal-misoprostol was 60 (74.1) cases ($p<0.05$).

Conclusion: We conclude that there was no significant difference in outcome of second trimester abortion by using Buccal misoprostol compared to vaginal misoprostol. But the acceptability of Buccal misoprostol was significantly higher compared to vaginal misoprostol. The cases in whom Buccal misoprostol was administered were more satisfied with the route of administration as compared to vaginal misoprostol.

KEYWORDS

Second trimester abortion, Buccal misoprostol, Vaginal misoprostol, Karad

INTRODUCTION

Second trimester abortions are of more importance than the first-trimester abortions owing to more risks associated. Different causes can lead to abortion such as fetal demise, mother's life threatening conditions such as preeclampsia and eclampsia, kidney diseases, uncontrolled diabetes, congenital anomalies not compatible with life, intrauterine infections, premature rupture of membranes, malignant diseases, and cardiovascular disorders.[1,2]

Medical abortion is a safe option for second-trimester abortion in indicated cases. It is a safe alternative to a surgical method. In the year 2002 and 2003, there was an amendment to the MTP act which sanctioned Obstetrician and Gynecologist to provide mifepristone and misoprostol in a clinical setting up to 7 weeks of pregnancy.

Misoprostol can be administered via oral, vaginal, buccal, sublingual, rectal routes, but vaginal administration is associated with less frequent digestive side effects (abdominal pain) and bleeding.[3] There is evidence that sublingual misoprostol is effective for medical abortion.[4] As misoprostol is used more frequently than other methods for abortion and its favorable side effect profile and satisfaction of patients, we decided to select a method that can have fewer side effects and good outcome in a timely manner. With this background, the present research was aimed to study the use of buccal misoprostol versus vaginal misoprostol for second trimester termination of pregnancy in terms of efficacy, success rate, induction-abortion interval, side effects and patient's acceptability.

MATERIALS AND METHODS

The present randomized controlled trial was conducted in Dept. of Obstetrics and Gynecology of Krishna Institute of Medical Sciences, Karad between July 2016 to June 2018. All women who lie between 13-28 weeks of gestation of uterine pregnancy and admitted to the hospital for MTP or termination of pregnancy for intrauterine fetal death, premature rupture of membranes, fetal congenital anomaly incompatible with life, antepartum eclampsia, and imminent eclampsia, severe pre eclampsia, contraceptive failure are included in the study. Those cases who have scarred uterus, pelvic pathology, uterine anomalies, allergy to prostaglandins, Hb < 10 gms/dl, glaucoma, asthma, Cardiac Diseases, respiratory disease, Renal Diseases, hemorrhagic disorder, Abnormal bleeding time, jaundice and Pyrexia and vomiting were excluded from the study.

A predesigned semi-structured questionnaire was prepared based on the review of literature on Buccal and vaginal misoprostol in second trimester abortion. The questionnaire included the information regarding age, gestational age, parity, history of previous abortions. It also included the information regarding indication for current abortion, induction abortion interval, dose of misoprostol and outcome of abortion. We also collected information on side-effects and acceptability of Buccal and vaginal misoprostol for abortions.

In Group A, induction was carried out on inpatient basis by giving 200µg misoprostol to be kept in buccal pouch, i.e., between teeth and cheek, for 30 mins and remaining pill to be swallowed with water, every 6 hourly till abortion or maximum 6 doses. In Group B, induction was carried out on inpatient basis by inserting 200 µg misoprostol tablets every 6 hourly into posterior fornix until abortion or maximum of 6 doses, keeping the patient strictly in bed for half an hour. Time of onset of contraction, bleeding, pain, expulsion of fetus including placenta and membrane will be looked for. All vital parameters were closely monitored and side effects if any were symptomatically managed. The patients were kept under observations for two hours after abortion.

A voluntary informed written consent was taken from the participant after explaining them about study procedure and information/data required from them. A strict confidentiality was maintained about the personal details of the participants and information related to the study. Data management and analysis was done using Microsoft excel and Epi-info software. The test was considered significant only if the p value comes out to be less than 0.05.

RESULTS

Table 1: Distribution of cases according to age, gestational age and parity

Age (in years)	Buccal Misoprostol (n=81)	Vaginal Misoprostol (n=81)	P value
≤20 yrs	8 (9.9)	6 (7.4)	0.78
21-25 yrs	53 (65.4)	50 (61.7)	
26-30 yrs	16 (19.8)	21 (25.9)	
>30yrs	4 (4.9)	4 (4.9)	

Gestational age (in weeks)			
13-18	40 (49.4)	38 (46.9)	0.94
19-22	27 (33.3)	28 (34.6)	
23-28	14 (17.3)	15 (18.5)	
Parity			
Primigravida	38 (46.9)	34 (42.0)	0.52
Multigravida	43 (53.1)	47 (58.0)	
Total	**81 (100.0)**	**81 (100)**	

The mean age of cases in Buccal misoprostol group was 23.4 ± 5.8 years while in vaginal misoprostol was 24.6 ± 6.2 years. There was non-significant association of age among the Buccal Misoprostol group and Vaginal Misoprostol group. The distribution of cases according age, gestational age and parity is as shown in table 1. There was non-significant association of age, gestational age and parity among the Buccal Misoprostol group and Vaginal Misoprostol group. The indication for abortions is summarized in Table 2.

Table 2: Distribution of cases according to indication for abortion

Indication	Buccal Misoprostol (n=81)	Vaginal Misoprostol (n=81)
MTP Fetal congenital anomaly Contraceptive failure	48 (59.2) 35 (43.2) 13 (16.0)	49 (60.5) 34 (42.0) 15 (18.5)
IUD	19 (23.4)	21 (25.9)
Severe pre-eclampsia (including colour Doppler changes)	11 (13.6)	9 (11.1)
Premature rupture of membranes with anhydramnious	3 (3.7)	2 (2.5)
Total	81 (100.0)	81 (100.0)

Table 3: Distribution of cases according to Induction-Abortion interval

Induction-Abortion Interval	Buccal Misoprostol(n=81)	Vaginal Misoprostol(n=81)	p value
<12hrs	3 (3.7)	3 (3.7)	0.08
12-23 hrs	25 (30.9)	41 (50.6)	
24-47hrs	47 (58.0)	32 (39.5)	
>48 hrs	6 (7.4)	5 (6.2)	
Total	81 (100.0)	81 (100.0)	

The mean Induction-Abortion interval of participants in Buccal misoprostol group was 37.6. ± 16.9 hours while in vaginal misoprostol was 26.1 ± 14.2 years. There was no statistical significant association of mean Induction-Abortion interval among the Buccal-Misoprostol group and Vaginal Misoprostol group.

Table 4: Distribution of cases according to dose of Misoprostol

Total dose of Misoprostol (mcg)	Buccal Misoprostol (n=81)	Vaginal Misoprostol (n=81)	p value
200	2 (2.5)	4 (4.9)	0.01
400	9 (11.1)	12 (14.8)	
600	15 (18.5)	27 (33.3)	
800	11 (13.6)	19 (23.5)	
1000	20 (24.6)	9 (11.1)	
1200	18 (22.2)	5 (6.2)	
Failure	6 (7.4)	5 (6.2)	
Total	81 (100.0)	81 (100.0)	

Table 5: Distribution of cases according to outcome and acceptability

Outcome	Buccal Misoprostol (n=81)	Vaginal Misoprostol (n=81)	P value
Abortion Success	75 (92.6)	76 (93.8)	0.75
Abortion Failure	6 (7.4)	5 (6.2)	
Acceptability			
Acceptable	75 (92.6)	60 (74.1)	0.001
Unacceptable	6 (7.4)	21 (25.9)	
Total	81 (100.0)	81 (100.0)	

We observed that in Buccal Misoprostol group, successful abortion rate was observed in 75 (92.6) cases and in vaginal-misoprostol group it was observed in 76 (93.8) cases. The acceptability of Buccal Misoprostol group was 75 (92.6) cases while vaginal-misoprostol was 60 (74.1) cases. There was statistical significant association between acceptability and use of Buccal misoprostol in second trimester abortion cases with p value less than 0.05.

Table 6: Distribution of cases according to side-effects

Side effects	Buccal Misoprostol (n=81)	Vaginal Misoprostol (n=81)
Nausea	16 (19.8)	7 (8.6)
Vomiting	9 (11.1)	5 (6.1)
Diarrhoea	4 (4.9)	9 (11.1)
Fever	6 (7.4)	12 (14.8)
Headache	2 (2.5)	1 (1.2)
Altered taste	14 (17.3)	0

We observed that among the Buccal Misoprostol group, 16 (19.8) cases had nausea, 9 (11.1) cases had vomiting while among the Vaginal Misoprostol group, 9 (11.1) cases had diarrhea and 12 (14.8) cases had fever.

DISCUSSION

In our study, we observed that successful abortion rate in the Buccal Misoprostol group was 75 (92.6) cases and in vaginal misoprostol group was 76 (93.8) cases. The proportion of successful abortion was almost similar in both the groups.

AI Ra et al[5] observed that among the Buccal Misoprostol group, successful abortion rate was observed in 78% and in vaginal misoprostol group, abortion success rate was observed in 83% cases. There was no significant association of outcome among the Buccal Misoprostol group and Vaginal Misoprostol group. Geetika Garg et al[6] observed higher abort success rate in Buccal misoprostol compared to vaginal group (96% v/s 80%) but this difference was not statistically significant. Abortion success rate observed in our study was comparable to these studies. While Nautiyal Deepika et al.[7] observed lower abortion success rate in oral misoprostol group compared to vaginal and sublingual group.

In our study, we observed that mean Induction-Abortion interval of participants in Buccal misoprostol group was 37.6. ± 16.9 hours while in vaginal misoprostol was 26.1 ± 14.2 hours ($p<0.05$). AI Ra et al[5] and observed that the mean Induction-Abortion interval in Buccal misoprostol group was 40 ± 29 hours while in vaginal misoprostol was 25 ± 17 years ($p<0.001$). The results of our study are comparable to the findings of AI Ra et al.

In our study, acceptability of Buccal Misoprostol group was 75 (92.6) cases while vaginal-misoprostol was 60 (74.1) cases ($p<0.05$). Nautiyal Deepika et al[7] observed the acceptability of sublingual Misoprostol was 46 (92.0) cases, oral Misoprostol was 50 (100.0) cases while vaginal-misoprostol was 20 (40.0) cases ($p<0.05$). Neeraja P et al[8] observed the comfortability of oral Misoprostol was 36 (96.0) cases while vaginal-misoprostol was 24 (60.0) cases ($p<0.05$). The results of these studies are comparable to our results. Geetika Garg et al[6] observed that 22 (88.0) cases were satisfied with Buccal Misoprostol while 24 (96.0) cases were satisfied with Vaginal Misoprostol ($p>0.05$). The result of this study was contrary to our findings.

CONCLUSION

On the basis of results, we conclude that there was no significant difference in outcome of second trimester abortion by using Buccal misoprostol compared to vaginal misoprostol. But the acceptability of Buccal misoprostol was significantly higher compared to vaginal misoprostol. The cases in whom Buccal misoprostol was administered were more satisfied with the route of administration as compared to vaginal misoprostol. Use of Buccal misoprostol was more acceptable to cases due to ease of administration and less vaginal examinations although induction abortion interval and dose of misoprostol required is lower in vaginal misoprostol.

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