

Original Research Article


# Role of Misoprostol in Cervical Ripening for Dilatation and Curettage

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## Abstract

**Background:** Difficulty in cervical dilatation is a hard situation during the procedure of diagnostic dilatation and curettage in some cases.

**Aim:** Aim of the present study was to evaluate the use of Misoprostol for cervical dilatation before D&C in Gynecological cases. Dilatation of cervix is performed as a preliminary step to curette the uterine cavity. Endometrial sampling is often performed either by D&C or by hysteroscopy as an office procedure.

**Materials and methods:** The study was performed at Department of Obstetrics and Gynecology, Victoria Hospital, Visakhapatnam, Andhra Pradesh from June 2018 to May 2019. The study comprised of 150 patients recruited from Gynecology Department with different indications for D&C. Selected cases had a full history of menstrual, Gynec, Obstetric, Personal and Family. A per abdomen and per speculum examination were done to note the Vaginal and Cervical condition. A bimanual pelvic examination was done to estimate size, position and mobility of uterus. In this study, the patients were allocated to receive either oral or vaginal misoprostol or no drug. All the subjects allocated to receive either oral or vaginal Misoprostol were instructed to take the medication at home, the night before the operative procedure. They were given 200 micro grams Misoprostol orally or vaginally 12 hours prior to the procedure.

**Results:** In present study, majority of cases (57.33%) fall in age group of 30-39 years and 34% cases fall in age group of 40-49 years. 83% in Misoprostol group and 90% cases in control group had previous vaginal deliveries. 19% cases in Misoprostol and 20% cases in control group had a prior uterine surgery. Indication for D&C, in majority of cases 66 cases (44%) Heavy menstrual bleeding was an indication, followed by Irregular bleeding 53 cases (35.33%), Intermenstrual bleeding 29 cases

(19.33%). Cervical dilatation effectively achieved in 62.5% in Nulliparous 69.2% in Primiparous, 94.93% in Multiparous.

**Conclusion:** Both Oral and Vaginal Misoprostol are equally effective in inducing Cervical priming prior to Dilatation and Curettage.

## Key words

Misoprostol, Cervical ripening, Dilatation and Curettage, D and C.

## Introduction

Abnormal uterine bleeding is a One of the common problems that encountered by gynecologists is abnormal uterine bleeding and most of the patients have benign disease, but need more evaluation especially after the age of 35 [1]. Common problem in performing curettage is difficulty in dilatation of internal cervical os and complications due to this include cervical trauma, creation of false tract and uterine perforation [2]. These complications can be reduced by ripening the cervix before curettage. Use of misoprostol for ripening the cervix prior to gynecological procedures on women is studied by various authors. Nowadays misoprostol has become a needed agent due to its beneficial effects on cervical ripening on non-pregnant women [3-5].

## Aim and objectives

Aim of the present study was to evaluate the use of Misoprostol for cervical dilatation before D&C in Gynecological cases. Dilatation of cervix is performed as a preliminary step to curette the uterine cavity. Endometrial sampling is often performed either by D&C or by hysteroscopy as an office procedure.

## Materials and methods

The study was performed at Department of Obstetrics and Gynecology, Victoria Hospital, Visakhapatnam, Andhra Pradesh from June 2018 to May 2019. The study comprised of 150 patients recruited from Gynecology Department with different indications for D&C.

Selected cases had a full history of menstrual, Gynec, Obstetric, Personal and Family. A per

abdomen and per speculum examination were done to note the Vaginal and Cervical condition. A bimanual pelvic examination was done to estimate size, position and mobility of uterus.

In this study, the patients were allocated to receive either oral or vaginal misoprostol or no drug. All the subjects allocated to receive either oral or vaginal Misoprostol were instructed to take the medication at home, the night before the operative procedure. They were given 200 micro grams Misoprostol orally or vaginally 12 hours prior to the procedure.

## Inclusion criteria

- Cases with complaint of abnormal uterine bleeding of age group 20 to 59 years.

## Exclusion criteria

- Allergy to Prostaglandins.
- Bronchial asthma.
- Cardiovascular diseases.
- Major systemic diseases like Hypertension, Diabetes, TB.

## Results

**Table - 1** shows distribution of cases according to age group. In present study, majority of cases (57.33%) fall in age group of 30-39 years and 34% cases fall in age group of 40-49 years.

**Table – 1:** Age wise distribution of cases.

Age (in years)	No. of cases	Overall %
20-29	11	7.33%
30-39	86	57.33%
40-49	51	34%
50-59	02	1.34%

**Table – 2:** Parity wise distribution.

Parity	Misoprostol		Control	Overall %
	Oral n=50	Vaginal n=50		
Nulliparous	5(10%)	3(6%)	8(16%)	16(10.66%)
Primiparous	8(16%)	5(10%)	6(12%)	19(12.66%)
Multiparous	37(74%)	42(84%)	36(72%)	115(79.24%)

**Table – 3:** Comparison of both groups.

Variable	Misoprostol n=100	Control n=50	Overall %
Previous Vaginal delivery	83(83%)	45(90%)	83.3%
Hormone usage	7(7%)	3(6%)	8.03%
Prior Endometrial biopsy	6(6%)	3(6%)	6%
Prior Uterine surgery	19(19%)	10(20%)	19.33%

**Table – 4:** Indication for Endometrial curettage.

Variable	Number of cases	Overall %
Irregular bleeding	53	35.33%
Inter menstrual bleeding	29	19.33%
Heavy menstrual bleeding	66	44%
Post-menopausal bleeding	2	1.3%

**Table – 5:** Parity wise cervical dilatation.

Parity	Total study (Oral + vaginal)	Total control	Cervical dilatation		Cervical dilatation achieved (Oral + vaginal)	Further dilatation required study (Oral + vaginal)	Control
			Pre medication	Post medication			
Nulliparity	8 (n=8)	8 (n=8)	0-2 mm	0-8 mm	5(62.5%)	3(37.5%)	8(100%)
Primiparity	13 (n=13)	6 (n=6)	0-4 mm	0-10 mm	9(69.2%)	4(30.76%)	6(100%)
Multiparity	79 (n=79)	36 (n=36)	2-8 mm	8-12 mm	75(94.93%)	4(5%)	34(94.4%)

**Table – 6:** Treatment emergent side effects following use of Misoprostol prior to D&C.

Variable	Misoprostol		Control (n=50)
	Oral (n=50)	Vaginal (n=50)	
Nausea	4(8%)	3(6%)	0
Vomiting	0	0	0
Abdominal pain	9(18%)	12(24%)	0
Vaginal bleeding	8(16%)	10(20%)	0
Diarrhea	6(12%)	2(4%)	0
Oral temperature >37.8°C prior to surgery	2(4%)	2(4%)	0

**Table - 2** shows distribution of cases according to parity 79.24% cases were multiparous, 19% were Primiparous and 16% were Nulliparous.

deliveries. 19% cases in Misoprostol and 20% cases in control group had a prior uterine surgery (C/V surgery) and 6% cases in control group had a prior endometrial biopsy.

**Table - 3** shows 83% in Misoprostol group and 90% cases in control group had previous vaginal

**Table - 4** shows indication for D&C, in majority of cases 66 cases (44%) Heavy menstrual bleeding was an indication, followed by Irregular bleeding 53 cases (35.33%), Intermenstrual bleeding 29 cases (19.33%). This shows AUB was the common problem encountered in gynecological practice requiring D&C as either a diagnostic or therapeutic procedure.

**Table - 5** shows cervical dilatation effectively achieved in 62.5% in Nulliparous 69.2% in Primiparous, 94.93% in Multiparous. Further dilatation of maximum 37.5% Nulliparous cases,

30.76% in Primiparous and least 5% in Multiparous.

**Table - 6** shows minor side effects on study group with 16(32%) cases in oral group, 14 (28%) cases in vaginal group.

It was observed that in 89% of cases endometrial samplings were obtained without need of cervical dilatation. Only 11study cases (11%-, 8 oral + 3 vaginal) required further cervical dilatation. Incidence of treatment – emergent side effects was 25% in all treated groups. There were no intra operative complications in study group (**Table – 7**).

**Table – 7:** Details of study.

Event	Number of cases		Overall %
Number of cases studied	150 Oral + vaginal + control		100.00%
Number of cases interpreted	150 Oral + vaginal + control		100.00%
Number of cases in study group that did not require further dilatation	89 (N=100) Oral + vaginal		89.00%
Number of cases in study group that needed further dilatation	11(N=100) Oral =8, vaginal=3	50 (N=50) Control	11.00%
Number of cases with side effects of drug	30(N=100) Oral =16, vaginal=14		30.00%
Number of cases with complications of procedure	5 Oral =0, vaginal=0, control=5		3.34%

## Discussion

Misoprostol is effective, economic and safe for pre-operative cervical dilatation in non-pregnant woman as established by various studies [6-13].

Different methods of cervical dilation used in non-pregnant women in general gynecology practice.

Misoprostol to ripen the cervix 12 hours before the procedure 400 µg /200µg vaginally may facilitate cervical dilation [8, 9]. Intra Cervical injection of vasopressin (0.05 µ/ml 4cc at 4 and 8 clock) substantially reduces the force required for cervical dilation.

Insertion of laminaria tents into cervical canal is effective in inducing proper cervical priming prior to operative hysteroscopy with minimal time of cervical dilatation [14].

Prostaglandins like sulprostonegel or Metenoprost potassium are also used for cervical priming before hysteroscopy [15, 16].

## Conclusion

It is observed that in 89% of cases Endometrial samplings were obtained without need of cervical dilatation only 11 study cases (11% - 8 oral + 3 vaginal) required further Cervical Dilatation.

Incidence of treatment – emergent side effects was 25% in all treated groups. There were no intra operative complications in study group.

Hence, it is a comfortable office procedure with less pain to patient. Both Oral and Vaginal Misoprostol are equally effective in inducing Cervical priming prior to Dilatation and Curettage. Minimal time was spent doing D&C and had no complications with mild and transient side effects in study groups.

Therefore it is concluded that Misoprostol is inexpensive and easy to use, it can be recommended for Cervical priming, prior to gynecological procedures also.

It reduces complications like bleeding and perforation. It facilitates cervical dilatation.

## References

1. Bonnar J, Sheppard BL. Treatment of menorrhagia during menstruation: randomised controlled trial of ethamsylate, mefenamic acid, and tranexamic acid. *BMJ*, 1996; 313(7057): 579– 82.
2. Fernandez H, Alby JD, Tournoux C, Chauveaud-Lambling A, DeTayrac R, Frydman R, et al. Vaginal misoprostol for cervical ripening before operative hysteroscopy in pre-menopausal women: a double-blind, placebo-controlled trial with three dose regimens. *Hum Reprod.*, 2004; 19(7): 1618– 21.
3. Areerak W, Manotaya S. Vaginal misoprostol prior to curettage for cervical dilatation in premenopausal women: A randomized controlled trial. *Thai J Obstet Gynecol.*, 2003; 15(4): 245– 8.
4. Sharifzade F, Kashanian M, Assadollahi Dabbagh Z. Effect of vaginal misoprostol on cervical priming in diagnostic Dilatation and Curettage. *IJOGI*, 2010; 13(3): 25– 30.
5. Valadan M, Rezaee Z, Mohammad pour J, Moghadam Tabrizi N. Vaginal misoprostal for cervical priming before hysteroscopy. *Tehran Univ Med J.*, 2008; 66(8): 599– 603.
6. Ngai S.W., To W.K., Lao T., Ho P.C. Cervical priming with oral misoprostol in pre-labour rupture of membranes at term. *Obstet. Gynecol*, 1986; 87: 923-926.
7. Preutthipan S, Herabutya Y. A randomized controlled trial of vaginal misoprostol for cervical priming before hysteroscopy. *Ohstet Gyneccol.*, 1999; 94: 427-430.
8. Preutthipan S, Herabutya Y. Vaginal misoprostol for cervical priming before hysteroscopy; a randomized controlled trial. *Obstet Gynecol.*, 2000; 96: 890-894.
9. Thomas JA, Leyland N, Durand N, Windrim RC. The use of oral misoprostol as a cervical ripening agent in operative hysteroscopy: a doubleblind, placebo-controlled trial. *Am JObstet Gynecol.*, 2002; 186: 876-879.
10. Choksuchat C, Cheewadhanaraks S, Getpook C, Wootipoom V, Dhanavoravibul K. Misoprostol tor cervical ripening in non-pregnant women: a randomized double-blind controlled trial of oral versus vaginal regimens. *Hum. Reprod.*, 2006; 21: 2167-70.
11. Da Costa AR, Pinto-Neto AM, Amorim M., Paiva LH., Scavuzzi A., Schettini J. Use of misoprostol prior to hysteroscopy in postmenopausal women: a randomized, placebo-controlled clinical trial. *Journal of Minimally Invasive Gynecology*, 2008; 15(1): 67-73.
12. C. Batukan, M. Ozgun, B. Ozcelik, E. Aygen, Y. Sahin, C. Turkyilmaz. Cervical ripening before operative hysteroscopy in premenopausal women: a randomized, double-blind, placebo-controlled comparison of vaginal and

- oral misoprostol. *Fertility and Sterility*, 2008; 89(4): 966-973.
13. S Bansal, S Kanwar, A Kaur, R Nautiya, I Chaturvedi. Misoprostol for cervical priming on non-pregnant uterus. *Internet J of Gynecology and Obstetrics*, 2009; 11(1): 1-5.
  14. Ostrzenski A. Resectoscopic cervical trauma minimized by inserting Laminaria digitata preoperatively. *Int J Fertil.*, 1994; 39: 111-113.
  15. Rath W, Kuhn W, Hilgers R. Facilitation of cervical dilatation by intracervical application of sulprostone gel prior to hysteroscopy. *Endoscopy*, 1985; 17: 191-193.
  16. Hald F, Kristoffersen SE, Gregersen E. Prostaglandin vaginal suppositories in pregnant women required cervical dilatation prior to hysteroscopy. *Acta Obstet Gynecol Scand.*, 1988; 67: 219-22.