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Efficacy of Misoprostol for Cervical Priming Before Dilatation in First Trimester MTP

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Summary

Objective - This study was conducted to see the efficacy of misoprostol for cervical priming before dilatation in first trimester MTP. **Method –** Fortyfive patients forming study group I a received 400 μgm misoprostol orally 12 hrs prior to MTP and 55 forming study group Ib received the same intravaginally 3-4 hrs prior to MTP. Control group of 50 patients did not receive any misoprostol. **Results -** The mean baseline cervical dilatation was significantly more in study group (9.26±1.72 mm) as compared to control group (4.28 ±1.32 mm) [p<.01]. The mean total time taken for MTP was significantly less in study group (4.61 ±.31 minute) as compared to control group (5.96 ±.61 minute) [p<.001]. During MTP 84% patients were without discomfort in study group, while 90% patients were resisting the procedure due to pain in control group. The mean blood loss was 93.5± 26.3 ml and 101±29 ml in study and control groups respectively (not significant, p>0.05). Amongst women given misoprostol commonest side effect was bleeding p/v. The GI tract side effects were seen in only oral group. It was noticed that complications of MTP procedure were found only in control group in form of uterine perforation (4%) and cervical injury (4%). The route of misoprostol administration did not make any difference to cervical priming. **Conclusion –** Misoprostol is safe, cheap and effective for cervical priming for first trimester MTP.

Introduction

Cervical priming before vacuum aspiration of first trimester unwanted pregnancy is an important prerequisite in reducing the risks of cervical injury and uterine perforation that are often associated with mechanical dilatation of cervix. Cervical priming also reduces the pain and time of operation by making cervix softer and easier to dilate. The two methods besides misoprostol which have been used most often are intracervical laminaria tent and prostaglandin pessaries. The lamenaria tent requires trained personnel for insertion and difficulty may be encountered during insertion which could lead to the creation of a false tract or dislodgement. There is risk of infection also. Prostaglandin pessaries such as gemeprost are expensive, unstable and require storage in a refrigerator. Misoprostol, a prostaglandin E analogue, was developed for the treatment of peptic ulcer in 1973 and has great advantages over the other prostaglandins currently marketed viz.

(a) It is stable at room temperature, no refrigeration is needed
(b) It is easily available
(c) It has no bronchoconstrictive action but a slight bronchodilatory action.
(d) It is inexpensive
(e) It is easy to use, can be used either orally or vaginally

Material and Method

The present study was carried out over a one year period starting from Oct, 1999 to Oct. 2000 on the patients attending obstetrics and gynaecology OPD and postpartum centre, in L.L.R.M. Medical College &

associated S.V.B.P. hospital , Meerut, seeking MTP between 6-12 weeks of gestation. A total of 150 patients were studied, out of which 100 served as study group (Group I). They received 2 tab. cytotec (200 μgm misoprostol in each tab, Searle Co). Fifty patients served as control group (Group II – No misoprostol). Study group was further divided into Group Ia (45 cases given 2 tab. cytotec orally 12 hours prior to MTP) and Group Ib (55 cases given same dose misoprostol intravaginally 3-4 hrs prior to MTP).

The selection of patients was made randomly. The patients were admitted and subjected to detailed history taking, general, systemic and pelvic examination. The consent was obtained. Preliminary laboratory investigations like Hb% and urine routine and microscopic examination were done. Patients with known hypersensitivity to prostaglandin, previous uterine surgery, medical diseases like organic heart disease, bronchial asthma, bronchiectasis, hypertension, epilepsy, ulcerative colitis, disorders of blood coagulation, cervicitis, vaginitis & PID were excluded from the study. All patients were subjected to suction evacuation. Before doing suction evacuation, occurrence of any adverse signs and symptoms such as abdominal pain, vaginal bleeding, nausea, vomiting, diarrhea and fever were recorded. Five percent dextrose drip with 20 units oxytocin at 16 drops/min was started if pregnancy was >10 weeks. All patients were sedated with injection pentazocin 30 mg + injection phenergan 50 mg intravenously. The size of the biggest Hegar's dilator which was passed into the cervix without resistance was recorded as the baseline cervical dilatation. Suction evacuation was done. The suction bottle was inspected for products of conception and blood loss. Other parameters which were assessed during the operation were amount of further dilatation required for the passage of the suction canula, the ease of dilatation, intraoperative blood loss, pain felt by patient, the duration of the procedure and any complication. Unpaired student 't' test was applied to test the significance of difference between two means.

Results

As shown in Table-I, there was no statistically significant difference between study and control groups as regards patients' age, parity, period of gestation, cervical os condition and cervical consistency. None of the patients was nulliparous

The clinical evaluation of patients in study and control groups is given in Table II. In study group mean baseline cervical dilatation was significantly more in study group (9.26±1.72 mm) as compared to control group (4.28±1.32 mm). It was statistically significant ($p<.01$). The time spent for the operation from the initiation of cervical dilation to the end of the suction was significantly shorter in study group (4.61±0.31 min.) than that in the control group (5.96±0.61 min.) ($p<.001$). The mean blood loss during MTP was slightly less in study group (93.5±26.3 ml) as compared to control group (101±29 ml) but this difference is not significant statistically ($P>.05$). During MTP in study group 84% patients were without discomfort, 16% patients were wincing only and none resisted the procedure due to pain, while in control group 90% patients were resisting the procedure due to pain, 10% were wincing only and none were without discomfort. In study group 18% patients had bleeding per vaginum in the form of spotting, 1% had nausea and 1% vomiting. It was noticed that nausea and vomiting were present only where misoprostol was given orally. [In control group of course no woman had any side effects]. All side effects were mild and well accepted by the women. It was found that complications of MTP procedure were present only in control group in form of uterine perforation (4%) and cervical injury (4%).

Discussion

In the present study the mean baseline cervical

Table 1

Patients Particulars	Study Group (n=100)	Control Group (n=50)
Mean age (in yrs)	28.6 ± 3.4	28 ± 2.9
Mean parity	3.9 ± 1.8	3.9 ± 1.8
Mean period of gestation (in weeks)	8.3 ± 1.43	7.72 ± 1.32
Cervical os condition		
* Tightly closed	29%	20%
* Not tightly closed	56%	66%
* Patulous	15%	14%
Cervical consistency		
* Soft	41%	40%
* Firm to soft	59%	60%

Table II. Clinical features of study and control group

Clinical features (n=100)	Study group Group (n=50)	Control	P value
Mean baseline cervical dilatation (in mm)	9.26 ± 1.72	4.28 ± 1.32	<0.01
Mean total time taken for procedure of MTP (in minute)	4.61 ± 0.31	5.96 ± 0.61	<0.001
Mean blood loss (in ml)	93.5 ± 26.3	101 ± 29	>0.05 not significant
Subjective pain sensation			
* No discomfort	84%	0%	
* Wincing only	16%	10%	
* Resisting the procedure due to pain	0%	90%	
Incidence of side effects			
* Bleeding per vaginum	18%	0%	
* Vomiting	1%	0%	
* Diarrhoea	1%	0%	
* No side effects	80%	100%	
Complications during MTP			
* Uterine perforation	0%	4%	
* Cervical injury	0%	4%	
* None	100%	92%	

dilatation achieved in study group was significantly greater ($P < 0.1$). Further dilatation in study group was achieved easily with less resistance as compared to control group. The mean total time taken for procedure of MTP in study group was significantly less ($P<0.001$) than in control group. Though the mean blood loss in study group was less than that in control group the difference was not statistically significant.

There was no complication in the study group while in the control group 4% patients had uterine perforation and another 4% had cervical injury during the MTP. The mean baseline cervical dilatation was almost equal in oral group and intravaginal group as also reported by Lawrie et al (1996) but HO et al (1997) found superiority of vaginal misoprostol over oral misoprostol for cervical priming in 2nd trimester pregnancies.

Several authors have studied the role and benefit of misoprostol in first trimester MTP. Ngai et al (1995) found that the median cervical dilatation in misoprostol group was significantly greater than that in placebo group. Bugalho et al (1994) reported that in the misoprostol group the time taken for the operation was significantly shorter. Ngai et al (1995) found significant reduction in mean blood loss in the misoprostol group than in placebo group Ngai et al (1995) reported that in the placebo group one woman had cervical laceration during the operation while one woman had an incomplete abortion.

Conclusion

We found that misoprostol is safe, cheap, easy to use and effective drug for cervical priming before dilatation in first trimester MTP, thus reducing the duration of procedure, subjective pain sensation and risk of cervical/uterine injury by making the cervix soft and easier to dilate. The route of misoprostol administration did not make any difference over cervical priming effect. However, the side effects of the drug were slightly more common, though well accepted, in the oral group

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