Original Research Paper

Volume-8 | Issue-4 | April-2018 | PRINT ISSN No 2249-555X

Gynaecology

SUBLINGUAL MISOPROSTOL FOR CERVICAL PRIMING IN SURGICAL FIRST TRIMESTER PREGNANCY TERMINATION

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ABSTRACT To determine the efficacy of 400 mcg sublingual misoprost as an adjunct to suction evacuation in first trimester pregnancy termination.

KEYWORDS : Misoprostol, First trimester pregnancy termination, Suction evacuation

INTRODUCTION

Surgical methods of abortion in the first trimester abortion carry several risks like haemorrhage, uterine perforation, incomplete abortion and cervical injury [1]. The risk is increased when difficulty is encountered during cervical dilatation especially in nulliparous patients. A reduction in the incidence of these complications would prevent both short term and long term morbidity. Misoprostol is an effective cervical dilator prior to suction evacuation, having advantages of being stable at room temperature, inexpensive and easy accessibility. Oral, vaginal & sublingual route has been described in the literature. Oral misoprostol 400 mcg should be given 12 hrs prior to suction evacuation and vaginal prostaglandins should be administered 2-4 hrs before surgery and some women did not like it. Sub lingual route avoids first pass effect through the liver in oral route and it is most vascular area of the buccal cavity [2]. 400 mcg sublingual misoprostol can be given 3 hrs prior to surgery giving good results. So this study has been done with an aim to evaluate the safety and efficacy of sublingual misoprostol for cervical priming before surgical evacuation.

METHODS

The study was conducted from January 2014 to January 2018 in the Dept. of Family Planning, Govt. General Hospital, Kurnool Medical College, Kurnool.

The 100 women who underwent voluntary termination of first trimester pregnancy (MTP) were recruited for the study.

Study group 50 women - were given 400 mcg of sublingual misoprostol.

Control group 50 women - suction evacuation was done without misoprostol

lnclusion criteria :

1) Gravidity up to four.
2) Gestation of 5-12 weeks Irrespective of maternal age or socio-economic status.

Exclusion criteria:

1) Gravidity five or more.
2) Gestational age greater than 12 weeks.
3) Cardio respiratory disorders
4) Haemoglobin, <8.0 g/dl.

Gestational age was estimated by last menstrual period and confirmed by pelvic examination and sonography.

A detailed history was taken, basic investigations were done and written informed voluntary consent was taken.

In study group two tablets of misoprostol (400 mcg) were given sublingually 3 hrs prior to suction evacuation.

In control group suction evacuation was done without giving misoprostol.

The women were counselled about possibility of pain in lower abdomen, nausea, vomiting, diarrhoea, fever and vaginal bleeding. All were subjected to dilatation and suction evacuation. The degree of cervical dilatation in both groups was measured by noting the largest Hegar dilator that could be passed through internal os without resistance hundred ml of saline was used to flush the suction tube after completion of vacuum aspiration. Blood loss was calculated by subtracting hundred ml from volume of conceptus in the suction apparatus. Time spent for the operation from the initiation of cervical dilatation to the end of suction evacuation was considered as time taken for the procedure. Side effects & complications were recorded.

RESULTS

The basic variables, age of the women, gestational age and parity were similar in both groups (Table 1). The requirement of cervical dilatation, amount of blood loss, time taken to complete the procedure, side effects and complications that occurred are given in Table 2.

The mean base line cervical dilatation was 5.7 and 5.4 mm in study and control group, respectively. The mean time taken to perform suction evacuation was 7.4 and 8.9 min in the study and control group, respectively. Blood loss > 75 ml occurred in 9 women (18%) in the study group and in 17 women (34%) in control group.

Blood loss <75 ml occurred in 41 women (82%) in the study group and in 33 women (66%) in control group.

6 women in study group (12%) complained of pain in lower abdomen while in control group 14 women (28%) had pain.

In study group versus control group, incidence of vomiting (16% vs 8%) diarrhoea (16% vs 1%) and vaginal bleeding (6% vs 2 %) was more in study group.

DISCUSSION

Sublingual misoprostol is effective as a cervical ripening agent and uterotonic agent. It was observed that the misoprostol tablet can be dissolved under the tongue in 15-20 min and therefore, it may have a faster onset of action and absorption rates may be more reliable [3]. It also has the advantage of avoiding fluid intake before operation and this is especially important if the vacuum aspiration is done under general anaesthesia.

Table -1 : Base line characteristics

Characteristic	Study group	Control group	Remarks
Age (years)	20-25	20-25	Not significant
Parity	2- 4	2-4	Not significant
Gestational age	5-12 weeks	5-12 weeks	Not significant

Table -2 : Base line characteristics

Parameters evaluated	Study group	Control group	Remarks
Cervical dilatation (mm)	5.7 ± 1.25	5.4 ± 1.25	Significant
Time taken to complete the procedure (min)	7.4 ± 1.5	8.9 ± 1.5	Significant
Blood loss <75ml	41 (82%)	33 (66%)	Borderline Not significant

Blood loss >75ml	9 (18%)	17 (34%)	Borderline Not significant
No.of women having abdominal pain	6 (12%)	14 (28%)	significant
Vomiting	8 (16%)	4 (8%)	Not significant
Diarrhoea	8 (16%)	1 (2%)	Significant
Incomplete abortion	1 (2%)	1 (2%)	Not significant
Vaginal bleeding	3 (6%)	1 (2%)	Borderline Not significant

A pharmacokinetic study has shown that after a single dose of sublingual misoprostol peak concentration is achieved in a shorter time than vaginal misoprostol. The peak concentration and bioavailability were also higher with sublingual misoprostol [4].

In Jaju Purushotam et al. studies, with 400 mcg vaginal misoprostol, the mean cervical dilatation was 8.37 and 3.5 mm in study group and control group [5]. Pandey et al. studied 400 mcg of oral misoprostol for preoperative cervical dilatation they found cervical dilatation of 9.42 versus 2.2 mm in study versus control group [6]. Our study showed that mean cervical dilatation was 5.7 mm in study group compared to 5.4 mm in control group. Our results are comparable with these reports. Time taken to complete the procedure was also less in study group as compared to that in control group.

Intra operative blood loss was also less in study group as compared to that in control group.

Few side effects of drugs i.e., vomiting, diarrhoea, and vaginal bleeding were seen in study group. These required symptomatic management only.

In this study, there were fewer patients perceiving abdominal pain in study group.

CONCLUSIONS

Use of sublingual misoprost prior to first trimester pregnancy termination by suction evacuation ripens the cervix so there is less need for cervical dilatation, pain perceived by patient is less, the time required for suction evacuation is less and there is reduction in blood loss. Sublingual misoprostol is effective and safe for cervical ripening and dilatation before suction evacuation.

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