Research Article

Oral misoprostol for cervical ripening prior to surgical termination of pregnancy (MTP)

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Abstract

Objective: To evaluate the efficacy of misoprostol as an adjunct to manual vacuum aspiration in termination of pregnancy of 6-12 weeks with previous caesarean section. **Method:** During the study period of 2 years from January 2013 to December 2014, 50 healthy pregnant women with 6-12 weeks gestation and a history of previous one caesarean section were randomly assigned in two groups of 25 subjects each. Group I received 400 µg of misoprostol at bed time for preoperative cervical priming and were asked to attend next morning pregnancy termination. Group II formed the control and did not receive any preoperative cervical priming. Main outcomes studied were cervical dilatation were evaluated. **Results:** Just prior to the surgical procedure the mean cervical dilation in group I was 6.5 mm and in Group II was 3.8 mm. Mean blood loass in Group I was 30 ml and in Group II 72 ml. the time required for the surgical procedure in Group I was 4 minutes and in Group II 6.8 minutes. Pain and bleeding occurred in seven patients in Gourp I. **Conclusion:** Misoprostol as an adjunct to manual vacuum aspiration in patients with previous cesarean section at 6-12 weeks of gestation was safe and cost effective. But it should be used with strict vigilance and monitoring.
Key words: misoprostol, voluntary terminatiaon of pregnancy, manual vacuum aspiration.

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INTRODUCTION

Voluntary termination of pregnancy (MTP) is one of the most commonly performed operations. World Health Organization estimates that around 50 million pregnancies are terminated each year in the world and around 100 to 200 thousand women die each year due to complications of abortion[1]. Manual vacuum aspiration is being performed for terminating pregnancy up to 6-12 weeks but is associated with many complications. Dilatation of the cervix at time proves to be very difficult. Cervical priming with laminaria tent and prostaglandin analogues have been used to minimize this problem and make vacuum aspiration safer. This study has been done with an aim to evaluate the safety and efficacy of oral misoprostol for cervical priming prior to vacuum aspiration in scared uterus.

MATERIAL AND METHODS

Between January 2013 and December 2014, 50 women with previous cesarean section and 6-12 weeks gestation were recruited for study. After counseling, informed consent was obtained. Thorough preoperative evaluation was done which included detailed history, physical examination and routine investigations. They were randomly allotted to one of the two groups.

Group I formed the study group. It consisted of 25 women who were given 400 µg misoprostol orally at bed time for cervical priming. All the women were kept under strict vigilance. Manual Vacuum aspiration was performed next morning.

Group II consisted of 25 women who were treated as control and did not receive misoprostol for cervical priming before manual vacuum aspiration was performed.

The degree of cervical dilatation in both the groups was measured by nothing the largest Hegar dilator that could be passed through the internal os without resistance.

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RESULTS

The basic variable, age of the women, gestational age and parity were similar in both the groups. Table I shows the

Table 1: Baseline Cervical Dilatation at the time of MVA

	Number of cases	Range	Mean
Study	25	3-8 mm	6.5
Control	25	2-5 mm	3.8

Table 2: Blood loss during Manual Vacuum Aspiration

	Number of women	Range (ml)	Mean (ml)
Study	25	20-70	30
Control	25	30-80	72

Table 3: Time needed for Manual Vacuum Aspiration (minutes)

	Number of women	Range	Mean
Study	25	2-8	4.0
Control	25	3-10	6.8

The mean blood loss in the study group was 30 ml and it was 72 ml in the control group. (Table II) The mean time required to perform manual vacuum aspiration in the study group was 4 minutes and 6.8 minutes in control group (Table III). In the study group 8 (32%) women experienced preoperative vaginal bleeding and pain. Nausea, vomiting, diarrhea, hyperpyrexia and shivering occurred in 4 (16%) women. In the control group, one (4%) woman developed uterine perforation because of cannula of MVA which was managed by laparotomy and rent repair. There was cervical trauma in 4 (16%) women and retained products of conception in 4 (16%) women. There was no scar disruption in any case in the study group.

DISCUSSION

Complications such as cervical injury and uterine perforation following manual vacuum aspiration increase with advancing gestational age and the risk is even greater in a scarred uterus due to mechanical cervical dilatation. Pretreatment with prostaglandin analogues or a laminaria tent significantly facilitates the procedure. Misoprostol E_1 is a prostaglandin analogue. It is a cheap, orally effective, stable at room temperature and has no broncoconstructive action. It has uterocontractive action and now plays a very important role in obstetrics. The present day evaluates the efficacy and safety of oral misoprostol as a cervical priming agent in cases of scarred uterus. In our study, women in the misoprostol group had mean cervical dilation of 6.5 mm vs 3.8 mm in the control group. Oppegaard at al[2] have used 400 µg of oral misoprostol for cervical priming 10 to 16 hours prior to surgical abortion in pregnancies of 7 to 12 weeks gestation and have found mean cervical dilatation to be base line survival dilatation at the time of evacuation which was in study group 6.5 mm and in control group was 3.8 mm.

5.8 mm. In our study, blood loss was 30 ml in the miroprostol group and 72 ml in the control group. Alka Pandey et al[3] found the median blood loss to be 90.56 ml and 124.9 ml in study and control group respectively. This difference is probably because in our series the gestational age was lesser and the volume of conceptus and liquor was less than that in their series. In the present study, duration of the operative procedure was 4 minutes in the misoprostol group and 6.8 minutes in the control group. Alka Pandey et al[3] found the duration of suction evacuation to be 7.74 minutes in the study group and 11.14 minutes in the control group. This difference between the two studies is probably because in our series the gestational age was lesser than that in their series.

In our series, eight women in the study group had pain. Four women in the study group experienced pyrexia, diarrhea and vomiting. In the series of Alka Pandey et al[3], 7 women had lower abdominal pain, nausea and vaginal bleeding in few patients. Maclsaac et al[4] conducted a randomized, double blind, placebo controlled study comparing 400 µg oral misoprostol, 400 µg vaginal miroprostol and a medium laminaria tent for dilating the cervix over 4 hours before surgical abortion of 7 to 14 weeks gestation. They found that vaginal misoprostol achieved a significantly greater mean dilatation than oral misoprostol and laminaria tent group. Ngai et al[5] studied the optimal dose and route of administration of misoprostol for preoperative cervical dilatation and recommended 400 µg misoprostol 3 hours prior to vacuum aspiration. Lawrie et al[6] did not find any significant difference in cervical dilatation between 400 µg oral misoprostol and 800 µg vaginal misoprostol groups, but there was significant pain and heavier preoperative bleeding in oral misoprostol group. Celentano et al[7] compared 800 µg oral misoprostol with 1 mg vaginal gemeprost for cervical priming prior to surgical termination and found that oral misoprostol is more effective and is associated with fewer side effects and complications than intravaginal gameprost. Aronssan et al[8] have studied the effect of misoprostol administration by different routes on pregnant uterus contractility. They found that regular uterine contractions developed in all women following sublingual and vaginal administration but not after oral administration. But we have found that oral misoprostol is effective in inducting uterine contractions. It has been reported in literature that the use of misoprostol to induce labor in women with previous cesarean section has resulted in scar disruption9. In our study group, scar dehiscence did not occur in any woman who used misoprostol for cervical priming.

Probably the ingestion of misoprostol in 6 to 12 weeks pregnant uterus did not subject the scar to stress and therefore rupture did not occur. The blood loss and duration of suction evacuation were less in our series than those in other series as the gestational age was less in our studies. Manual dilatation of pregnant cervix may cause cervical trauma, uterine perforation and incomplete evacuation with possibilities of prolonged bleeding, sepsis and long term sequelae of cervical incompetence. Misoprostol ripens the cervix and initiates uterine contractions making late first trimester and early second trimester abortion safe and complete. Four hundred microgram oral misoprostol et 6 to 12 weeks gestation was found to be effective and safe.

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