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ORIGINAL ARTICLE

Effect of misoprostol before hysteroscopic polypectomy- A clinical study

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ABSTRACT:

Background: Misoprostol is classified as a prostaglandin analog, specifically prostaglandin E1 (PGE1). The present study was conducted to evaluate effect of misoprostol before hysteroscopic polypectomy. **Materials & Methods:**70 women complaining from vaginal bleeding were divided into two groups of 35 each. In group I, subjects received two 400 mcg vaginal misoprostol tablets 6 hours before the procedure and group II women who did not receive misoprostol before hysteroscopy. The duration required for cervical dilatation up to Hegar number 8, the surgical time, complications during cervical dilatation, and adverse effects were recorded. **Results:** Parity 0 was seen in 17 and 19, 1 in 4 and 6, 2 in 6 and 5, 3 in 3 and 2 and 4 in 1 and 3 subjects in group I and II respectively. Gravidity 0 seen in 18 and 19, 1 in 4 and 5, 2 in 5 and 3, 3 in 4 and 6 and 4 in 4 and 2 subjects in group I and II respectively. The difference was non- significant (P> 0.05). The mean dilatation time in group I subjects was 96.4 seconds and in group II subjects was 117.2 seconds. The mean operative time in group I subjects was 175.8 seconds and in group II subjects was 234.6 seconds. The difference was significant (P< 0.05). Complications such as cervical lacerations in 1 in group II and false passage in 1 subjectin group I and in 3 subjects in group II. The difference was significant (P< 0.05). **Conclusion:** It is possible to achieve cervical priming in a simple, safe, and effective way by administering a regimen of 400 mcg vaginal misoprostol six hours prior to hysteroscopic polypectomy. As a result, the procedure will take less time and the necessity for cervical dilatation and complications will be diminished.

Keywords: cervical dilatation, misoprostol,vaginal

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INTRODUCTION

Misoprostol is classified as a prostaglandin analog, specifically prostaglandin E1 (PGE1). Its applications in obstetrics and gynecology include cervical ripening, labor induction, and prevention of postpartum hemorrhage.[1] Misoprostol is often used before hysteroscopic procedures (like hysteroscopy, dilation and curettage, or endometrial biopsy) to aid in the softening and dilation of the cervix. This can make access to the uterine cavity easier and lower the chances of complications during the procedure, including cervical injury or uterine perforation.[2] The use of Misoprostol prior to hysteroscopic procedures can differ based on factors like the patient's medical history, the exact procedure being carried out, and the healthcare provider's preferences.[3]

The use of misoprostol for pre-treatment can lead to a more dilated cervix, which in turn can facilitate better visualization of the uterine cavity and enhance the maneuverability of instruments during polypectomy. This may help facilitate a smoother and more efficient implementation of the procedure, which could diminish the chances of complications arising and enhance overall surgical outcomes.[4] Inducing cervical ripening with misoprostol may also improve patient comfort during the hysteroscopic polypectomy procedure.A cervix that is more dilated can lessen discomfort related to cervical manipulation and decrease the necessity for excessive force or multiple attempts to reach the uterine cavity.[5] Misoprostol is usually administered either vaginally or orally a few hours to one day prior to the planned procedure. However, it has not yet been definitively established what the optimal method of misoprostol intake is for cervical dilation.[6]The present study was conducted to evaluate effect of misoprostol before hysteroscopic polypectomy.

MATERIALS & METHODS

The present study was carried out on 70 women complaining of vaginal bleeding and diagnosed with endometrial polyp. All were informed regarding the study and their written consent was obtained.

Data such as name, age, etc. was recorded. All underwent physical, gynecologic, and obstetric examinations. Each of the two groups that the patients were divided into consisted of 35 individuals. In group I, participants were administered two 400 mcg vaginal misoprostol tablets 6 hours prior to the procedure, while women in group II did not receive misoprostol before hysteroscopy. Prior to anesthesia, inquiries regarding misoprostol side effects were made. A forward-oblique lens with a 30-degree angle and a rigid hysteroscope with an outer sheath diameter of 5.0 mm were used. The detention medium was saline solution. One day and one week after the hysteroscopy, a follow-up was carried out. Parameters such as the time needed for cervical dilation to reach Hegar number 8, surgical duration, complications during cervical dilation, and adverse effects related to

misoprostol and hysteroscopy were recorded.Data thus obtained were subjected to statistical analysis.

RESULTS

Table I Baseline characteristics

Parameters	Variables	Group I	Group II	P value
Parity	0	17	19	0.54
	1	4	6	
	2	6	5	
	3	3	2	
	4	1	3	
Gravidity	0	18	19	0.12
	1	4	5	
	2	5	3	
	3	4	6	
	4	4	2	

Table I shows that parity 0 was seen in 17 and 19, 1 in 4 and 6, 2 in 6 and 5, 3 in 3 and 2 and 4 in 1 and 3 subjects in group I and II respectively. Gravidity 0 seen in 18 and 19, 1 in 4 and 5, 2 in 5 and 3, 3 in 4 and 6 and 4 in 4 and 2 subjects in group I and II respectively. The difference was non- significant (P> 0.05).

Table II Assessment of parameters

Parameters	Group I	Group II	P value
Dilatation time (sec)	96.4	117.2	0.05
Operative time (sec)	175.8	234.6	0.03

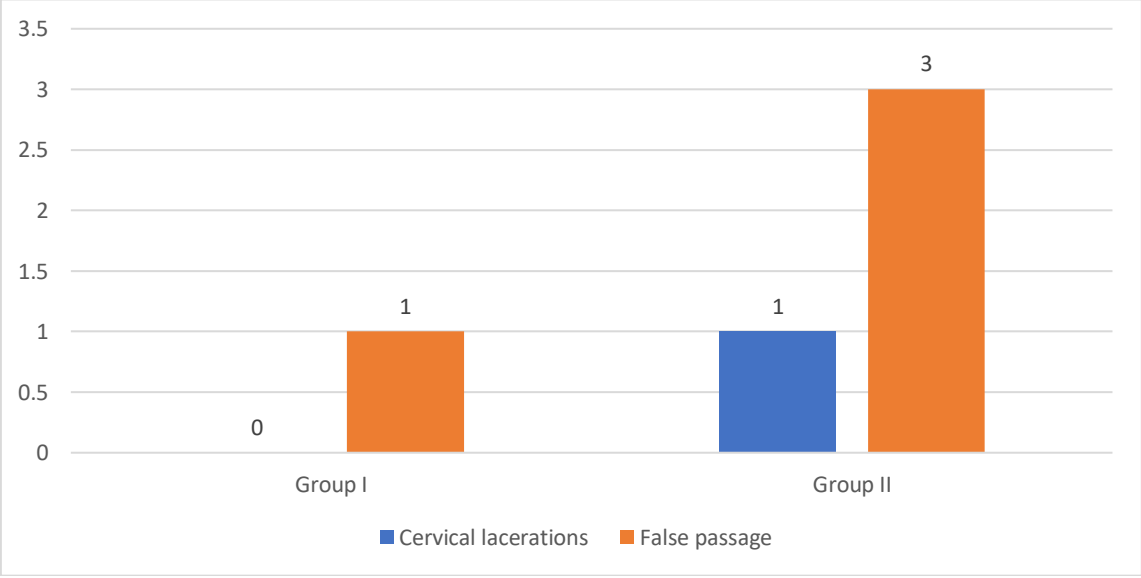
Table II shows that mean dilatation time in group I subjects was 96.4 seconds and in group II subjects was 117.2 seconds. The mean operative time in group I subjects was 175.8 seconds and in group II subjects was 234.6 seconds. The difference was significant (P< 0.05).

Table III Assessment of complications

Complications	Group I	Group II	P value
Cervical lacerations	0	1	0.05
False passage	1	3	0.02

Table III, graph I shows that complications such as cervical lacerations in 1 in group II and false passage in 1 subjectin group I and in 3 subjects in group II. The difference was significant (P< 0.05).

Graph I Assessment of complications



DISCUSSION

Administering misoprostol prior to hysteroscopic polypectomy can impact both the dilation of the cervix and how long the procedure takes.[7] Misoprostol aids in softening and widening the cervix, facilitating access to the uterine cavity during the hysteroscopic procedure.[8,9] Misoprostol can aid in achieving smoother and less traumatic uterine entry by promoting cervical ripening, thereby lowering the chances of cervical injury or uterine perforation

during instrumentation.[10,11] Administering misoprostol prior to hysteroscopic polypectomy may result in a shorter procedure duration. An easier entry of the hysteroscope and instruments into the uterine cavity is facilitated by the cervix's dilation and softening, which can make surgery more efficient and possibly shorten its duration.[12]The present study was conducted to evaluate effect of misoprostol before hysteroscopic polypectomy.

We found that parity 0 was seen in 17 and 19, 1 in 4 and 6, 2 in 6 and 5, 3 in 3 and 2 and 4 in 1 and 3 subjects in group I and II respectively. Gravidity0 seen in 18 and 19, 1 in 4 and 5, 2 in 5 and 3, 3 in 4 and 6 and 4 in 4 and 2 subjects in group I and II respectively. Darwish et al[13] compared the effectiveness of intravaginal misoprostol and endocervical laminaria tents before operative hysteroscopy in selected cases. A total of 144 patients diagnosed with intrauterine lesions and scheduled for operative hysteroscopy were randomly assigned to two groups based on the method of cervical priming before the procedure. For patients in group A (n=72), 200 microg misoprostol was placed in the posterior vaginal fornix, while laminaria tents were inserted intracervically for those in group B (n=72). The two methods proved effective for cervical dilatation, achieving mean cervical diameters of 7.5±1.2 mm and 7.6±1.2 mm, respectively. The mean cervical diameter and the time needed for cervical dilatation (51.6 vs. 51.4 s, respectively) did not differ significantly.In contrast, there was a significant difference between the groups with respect to the insertion difficulty and in doctors' and patients' assessments of the procedure.

We found that the mean dilatation time in group I subjects was 96.4 seconds and in group II subjects was 117.2 seconds. The mean operative time in group I subjects was 175.8 seconds and in group II subjects was 234.6 seconds. Tang et al[14] conducted a comparison between a novel sublingual administration route and the vaginal route for pre-operative cervical priming during first-trimester surgical abortion. A total of eighty women with a gestational age of less than 12 weeks were assigned to receive either sublingual or vaginal misoprostol (400 micrograms) three hours before vacuum aspiration, based on a computer-generated randomization model. The main outcome measure was the extent of cervical dilatation, while secondary outcomes comprised the force needed to achieve dilation from 3 to 8 mm, intra-operative blood loss, and occurrence of pre-operative side effects.No significant differences were observed in baseline cervical dilatation (sublingual: 7.6 +/- 1.3 mm; vaginal: 7.7 +/- 0.73 mm), the cumulative force needed to dilate the cervix from 3 to 8 mm (sublingual: 9.0 +/- 9.8 N; vaginal: 6.6 +/- 5.4 N), and total blood loss (sublingual: 52.1 +/- 20.2 ml; vaginal: 48.3 +/- 12.3 ml). There were also similarities in the side-effects experienced prior to surgery.

We observed that complications such as cervical lacerations in 1 in group II and false passage in 1 subjectin group I and in 3 subjects in group II.Inácio QAet al[15]evaluated the use of misoprostol prior to hysteroscopy procedures regarding technical ease, the presence of side effects, and the occurrence of complications.The occurrence of postmenopausal uterine bleeding was the main indication for hysteroscopy and revealed a statistical difference between groups ($p < 0.001$), being present in 93.23% of the patients in the study group and in 69.7% of the patients in the control group.: Only 2 patients (1.5%) in the study group reported adverse effects. Although no statistical differences were observed regarding the occurrence of complications during the procedure ($p = 0.0662$), a higher total number of complications was noted in the group that used misoprostol ($n = 7$; 5.26%) compared with the group that did not use the drug ($n = 1$; 0.75%), a fact that is clinically relevant. When evaluating the ease of the technique (measured by the complete performance of all steps of the hysteroscopy procedure), it was verified that although there was no difference between groups ($p = 0.0586$), the control group had more than twice as many incompletely performed procedures ($n = 17$) when compared with the group that used misoprostol previously ($n = 8$), which is also clinically relevant.

The shortcoming of the study is small sample size.

CONCLUSION

Authors found that it is possible to achieve cervical priming in a simple, safe, and effective way by administering a regimen of 400 mcg vaginal misoprostol six hours prior to hysteroscopic polypectomy. As a result, the procedure will take less time and the necessity for cervical dilatation and complications will be diminished.

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