ORIGINAL RESEARCH

Evaluation of effect of misoprostol before hysteroscopic polypectomy

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ABSTRACT

Background: Misoprostol is a medication that belongs to the prostaglandin analog class, specifically prostaglandin E1 (PGE1). It is commonly used in gynecology and obstetrics for various purposes, including cervical ripening, induction of labor, and prevention of postpartum hemorrhage.The present study was conducted to evaluate effect of misoprostol before hysteroscopic polypectomy. **Materials & Methods:**58 women complaining from vaginal bleeding and diagnosed to have an endometrial polypwere divided into two groups of 29 each. In group I, subjects received two 400 mcgvaginal 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 was the study's key outcome measure. The surgical time, complications during cervical dilatation, and adverse effects were recorded. **Results:** Parity 0 was seen in 14 and 11, 1 in 6 and 6, 2 in 5 and 6, 3 in 3 and 4 and 4 in 1 and 2 subjects in group I and II respectively. Gravidity 0 seen in 12 and 13, 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 91.4 seconds and in group II subjects was 115.2 seconds. The mean operative time in group I subjects was 184.8 seconds and in group II subjects was 236.4 seconds. The difference was significant (P< 0.05). Complications such as false passage was seen in 2 subjects in group II and cervical lacerations in 4 subjects in group II. There were no such complications in group I subjects. The difference was significant (P< 0.05). **Conclusion:** Cervical primiing can be achieved in a straightforward, safe, and efficient manner by using a regimen of 400 mcg vaginal misoprostol given six hours before to hysteroscopic polypectomy. This will shorten the duration of the procedure and reduce the need for cervical dilatation and problems.

Keywords: Misoprostol, polypectomy, postpartum hemorrhage

INTRODUCTION

Misoprostol is a medication that belongs to the prostaglandin analog class, specifically prostaglandin E1 (PGE1). It is commonly used in gynecology and obstetrics for various purposes, including cervical ripening, induction of labor, and prevention of postpartum hemorrhage.[1]When used prior to hysteroscopic intervention (such as hysteroscopy, dilation and curettage, or endometrial biopsy), Misoprostol is often administered to help soften and dilate the cervix.[2] This can facilitate easier access to the uterine cavity and reduce the risk of complications during the procedure, such as cervical injury or uterine perforation.The administration of Misoprostol before hysteroscopic procedures may vary depending on factors such as the patient's medical history, the specific procedure being performed, and the preferences of the healthcare provider.[3] A more dilated cervix due to misoprostol pre-treatment can enhance visualization of the uterine cavity and improve maneuverability of instruments during the polypectomy.[4] This can contribute to smoother and more efficient execution of the procedure, potentially reducing the likelihood of complications and improving overall surgical outcomes.Misoprostol-induced cervical ripening may also enhance patient comfort during the hysteroscopic polypectomy procedure.[5]A more dilated cervix can minimize discomfort associated with cervical manipulation and reduce the need for excessive force or repeated attempts to access the uterine cavity.Typically, Misoprostol is given vaginally or orally a few hours to a day before the scheduled procedure.But till now it is not definitely proven what is the best route of misoprostol intake for cervical dilatation.[6]The present study was conducted to evaluate effect of misoprostol before hysteroscopic polypectomy.

MATERIALS & METHODS

The present study was conducted on 58 women complaining from vaginal bleeding and diagnosed to have an endometrial polyp. All were informed

regarding the study and their written consent was obtained.

Data such as name, age, etc. was recorded. All underwent a physical examination, gynecologic, and obstetric examination. Patients were divided into two groups of 29 each. In group I, subjects received two 400 mcgvaginal misoprostol tablets 6 hours before the procedure and group II women who did not receive misoprostol before hysteroscopy.Before anesthesia, questions concerning misoprostol side effects were asked. A 30 degree forward-oblique lens and a 5,0 mm outer sheath diameter rigid hysteroscope were utilized. Saline solution served as the detention medium. A follow-up was conducted a day and a week after the hysteroscopy.The duration required for cervical dilatation up to Hegar number 8 was the study's key outcome measure. The surgical time, complications during cervical dilatation, and adverse effects from misoprostol and hysteroscopy were the study's secondary outcomes.Data thus obtained were subjected to statistical analysis. P value < 0.05 was considered significant.

RESULTS

Table: I Comparison of baseline characteristics

Parameters	Variables	Group I	Group II	P value
Parity	0	14	11	0.74
	1	6	6	
	2	5	6	
	3	3	4	
	4	1	2	
Gravidity	0	12	13	0.81
	1	4	5	
	2	5	3	
	3	4	6	
	4	4	2	

Table I shows that parity0 was seen in 14 and 11, 1 in 6 and 6, 2 in 5 and 6, 3 in 3 and 4 and 4 in 1 and 2 subjects in group I and II respectively. Gravidity 0 seen in 12 and 13, 1 in 4 and 5, 2 in 5 and 3, 3 in 4 and 6 and 4 in 4 and 2subjects 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)	91.4	115.2	0.04
Operative time (sec)	184.8	236.4	0.02

Table II, graph I shows that mean dilatation time in group I subjects was 91.4seconds and in group II subjects was 115.2seconds. The mean operative time in group I subjects was 184.8seconds and in group II subjects was 236.4 seconds. The difference was significant (P< 0.05).

Graph: I Assessment of parameters

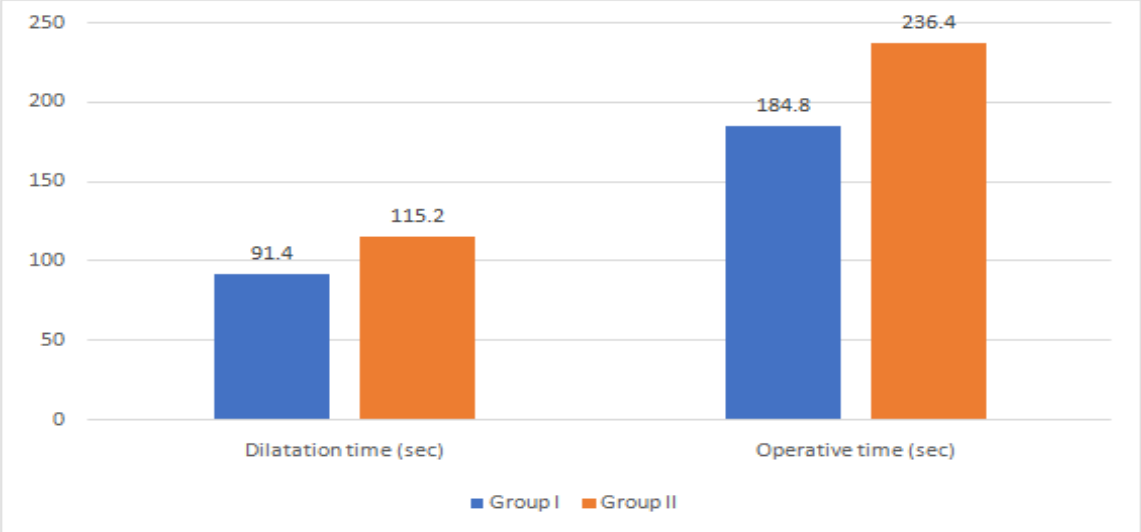

Table: III Assessment of complications

Complications	Group I	Group II	P value
False passage	0	2	0.05
Cervical lacerations	0	4	0.01

Table III shows that complications such as false passage was seen in 2 subjects in group II and cervical lacerations in 4 subjects in group II. There were no such complications in group I subjects. The difference was significant (P< 0.05).

DISCUSSION

The use of misoprostol before hysteroscopic polypectomy can have several effects on the dilatation of the cervix and the duration of the procedure.[7]Misoprostol helps soften and dilate the cervix, making it easier to access the uterine cavity during the hysteroscopic procedure.[8] By promoting cervical ripening, misoprostol can facilitate smoother and less traumatic entry into the uterus, reducing the risk of cervical injury or uterine perforation during instrumentation.[9,10]Misoprostol administration before hysteroscopic polypectomy may lead to a shorter duration of the procedure. The softened and dilated cervix allows for easier passage of the hysteroscope and instruments into the uterine cavity, which can streamline the surgical process and potentially reduce the time required for completion.[11]The present study was conducted to evaluate effect of misoprostol before hysteroscopic polypectomy. We found that parity 0 was seen in 14 and 11, 1 in 6 and 6, 2 in 5 and 6, 3 in 3 and 4 and 4 in 1 and 2 subjects in group I and II respectively. Gravidity0 seen in 12 and 13, 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. Hasan et al[12]assessed the effect of using misoprostol on easy dilatation of the cervix and on reducing the time needed for dilatation of cervix and the overall time needed for the procedure. This study was performed on women who were complaining from vaginal bleeding and diagnosed to have an endometrial polyp either received misoprostol or not prior to hysteroscopic myomectomy and were subjected to hysteroscopic polypectomy under general anesthesia. The time needed for cervical dilatation was more in the control group who did not receive misoprostol (P value >0.001). We observed that mean dilatation time in group I subjects was 91.4 seconds and in group II subjects was 115.2 seconds. The mean operative time in group I subjects was 184.8 seconds and in group II subjects was 236.4 seconds. A study by Darwish et al[13]aimed to compare efficacy of intravaginal misoprostol versus endocervical laminaria tents prior to operative hysteroscopy in selected cases.A total of 144 patients with diagnosed intrauterine lesions scheduled for operative hysteroscopy were randomly allocated to two groups according to method of cervical priming prior to the procedure. Misoprostol 200 microg was inserted into the posterior fornix of the vagina for patients in group A (n=72), while laminaria tents were inserted intracervically in group B patients (n=72).Both methods were effective for cervical dilatation with a mean cervical diameter of 7.5+/-1.2 and 7.6+/-1.2 mm respectively. There was no significant difference in the mean cervical diameter or the time required for cervical dilatation (51.6 versus 51.4 s respectively). 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 observed thatcomplications such as false passage was seen in 2 subjects in group II and cervical lacerations in 4 subjects in group II. There were no such complications in group I subjects. Tang et al[14]compared a new route of sublingual administration to the vaginal route of administration for pre-operative cervical priming in first trimester surgical abortion.Eighty women with gestational age <12 weeks were randomized by a computer-generated model to receive 400 micro g of misoprostol either sublingually or vaginally 3 h prior to vacuum aspiration. The primary outcome measure was the degree of cervical dilatation, and secondary outcomes included the force required to dilate the cervix from 3 to 8 mm, intra-operative blood loss and incidence of pre-operative side-effects.There was no significant difference in the baseline cervical dilatation (sublingual: 7.6 +/- 1.3 mm; vaginal: 7.7 +/- 0.73 mm), cumulative force required 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). Pre-operative side-effects were also similar.

The shortcoming of the study is small sample size.

CONCLUSION

Authors found that cervical primiing can be achieved in a straightforward, safe, and efficient manner by using a regimen of 400 mcg vaginal misoprostol given six hours before to hysteroscopic polypectomy. This will shorten the duration of the procedure and reduce the need for cervical dilatation and problems.

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