



CLINICAL ARTICLE

Vaginal misoprostol for cervical priming before hysteroscopy in perimenopausal and postmenopausal women

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Received 30 March 2005; received in revised form 29 June 2005; accepted 29 June 2005

KEYWORDS

Misoprostol;
Cervical ripening;
Hysteroscopy

Abstract

Objective: To evaluate the effectiveness and possible adverse effects of vaginal misoprostol for cervical priming before hysteroscopy in perimenopausal and postmenopausal women. **Methods:** A total of 105 women scheduled for hysteroscopy were randomly assigned to 2 groups. The study group ($n=51$) received 400 μg of vaginal misoprostol at least 12 h before the procedure and the control group ($n=54$) received no cervical priming agent. The primary outcome measure was the number of women who required cervical dilation. Secondary outcomes were cervical width (the largest size of Hegar dilator inserted without resistance) as well as complications and adverse effects. **Results:** In the misoprostol group 27 women (52.9%) required cervical dilation vs. 53 (98.1%) in the control group ($P<0.0001$). The largest size of Hegar dilator inserted without resistance was 7.6 ± 1.4 mm in the misoprostol group vs. 5.0 ± 1.1 mm in the control group ($P<0.0001$). A similar effect of misoprostol on cervical dilation was also found in the subgroup of treated postmenopausal women. Only 2 women (3.9%) experienced mild lower abdominal pain after misoprostol application. **Conclusion:** Vaginal misoprostol applied before hysteroscopy reduced cervical resistance and the need for cervical dilation in perimenopausal and postmenopausal women, with only mild adverse effects.

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1. Introduction

Over the past decades hysteroscopy has become an important diagnostic and therapeutic tool for patients with intrauterine abnormalities. Diagnostic hysteroscopy allows for a panoramic view of the uterine cavity, meanwhile operative hysteroscopy is a minimally invasive approach to the treatment of intrauterine lesions. Well-known complications associated with hysteroscopy include cervical tears, bleeding, the creation of false tracts, and uterine perforation. These are mainly related to the difficulty of cervical dilation, especially in cases of cervical atrophy, scarring or anatomic stenosis [1,2].

The incidence of these complications may be reduced if the cervix is ripened beforehand. Some surgeons attempt to avoid cervical damage by inserting laminaria into the cervical canal the night before surgery [3]. Others use different forms of prostaglandins—vaginal suppositories of metenoprost potassium or gemeprost, or intracervical sulprostone gel [4–6]. None of these methods is used widely, but most surgeons agree that there is a need for an effective cervical priming agent that can be used in nonpregnant women in general gynecological practice.

Misoprostol is a stable synthetic prostaglandin E1 analogue used for the prophylaxis and treatment of peptic ulcers resulting from long-term use of nonsteroidal anti-inflammatory drugs. It is inexpensive, can be kept at room temperature, and is associated with few adverse effects [7]. The systemic bioavailability of misoprostol is 3 times higher after vaginal insertion than after oral administration [8,9]. Misoprostol has a cervical ripening effect and induces uterine contractions, and it has been successfully used for the pretreatment of the cervix prior to termination of pregnancy in the first trimester; the induction of medical abortion in the first or second trimester; labor induction in late pregnancy; and the prevention and treatment of postpartum hemorrhage [10]. The use of synthetic prostaglandins in gynecology has been limited. Misoprostol use has recently been studied prior to hysteroscopy, artificial insemination, endometrial biopsy, and dilation and curettage. However, the conclusions of these studies are controversial [11–22]; moreover, the cervical priming effect of misoprostol in nonpregnant women, especially after menopause, is not well established, and the best route and dosage for misoprostol administration have not been identified. The purpose of this randomized study was to investigate the cervical priming effect of vaginal misoprostol in perimenopausal and postmenopausal women before hysteroscopy.

2. Materials and methods

The study was conducted at the Department of Obstetrics and Gynecology of Kaunas University Hospital of Medicine, Kaunas, Lithuania. Women were recruited from June to December 2004 shortly after hospital admission, 1 day before the scheduled hysteroscopy. After enrollment, a full medical, obstetrical, and gynecological history was taken, followed by a physical examination. The inclusion criteria were being perimenopausal or postmenopausal; having a definite indication for hysteroscopy; and being in good general health. Exclusion criteria were contraindications to prostaglandin treatment and lesions of the endocervical canal.

A total of 105 women were assigned to 2 groups using a computer-generated randomization table. In the study group ($n=51$) 400 μg of misoprostol (Cytotec; Searle, High Wycombe, England) was inserted in the posterior vaginal fornix at least 12 h before hysteroscopy. No patient received any cervical ripening agent prior to surgery in the control group ($n=54$). The study was approved by the hospital ethics committee. Written informed consent was obtained from each participant.

The hysteroscopy and indicated procedure were performed under general anesthesia by 2 investigators. Cervix dilation was performed using successively larger Hegar dilators until resistance was met. Cervical width was reported as 1 size smaller as the final Hegar dilator used. Further, cervix was dilated to Hegar No. 8.5 for diagnostic purposes and minor operative procedures, and to Hegar No. 10 for hysteroscopic resection of fibroids. An 8-mm hysteroscope was used and the uterine cavity distended with normal saline solution.

The primary outcome measure was the number of women who required cervical dilation. The secondary outcomes were the cervical width (measured by the largest size of Hegar dilator that could be inserted without resistance), total operative time, complications, and adverse effects of misoprostol. Demographic data including age, parity, menopausal status, and previous cervical intervention and dilation were recorded. A subgroup analysis examined postmenopausal women in both misoprostol and control groups.

From June to December 2003, 98% of perimenopausal and postmenopausal women undergoing scheduled hysteroscopy required cervical dilation. A sample size calculation was computed using a two-tailed test with a type I error of 0.05 and 90% power. To reduce the number of women requiring cervical dilation by 20%, 50 women were needed in each group.

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