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ORIGINAL ARTICLE

Vaginal misoprostol versus vaginal surgical evacuation of first trimester incomplete abortion: Comparative study

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KEYWORDS

Incomplete abortion;
Misoprostol;
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Abstract *Objectives:* The aim of this study is to assess the effectiveness and acceptability of using vaginal misoprostol for management of first trimester spontaneous incomplete abortion as an alternative to direct vaginal surgical evacuation in our setting.

Methods: This is a prospective comparative study performed on 147 patients with first trimester incomplete abortion between 8 and 12 weeks requesting medical management. They were divided into two groups according to patients' choice; group (I) received misoprostol tablet 400 mcg (Cytotec, Serono) every 4 h for a maximum of three doses while group (II) underwent surgical vaginal evacuation directly under general anesthesia. Only 54 patients in group I and 51 patients in group II completed their follow up and included in the analysis.

Results: Although vaginal surgical evacuation was successful in solving the problem in 100% of cases, misoprostol was successful in 79.6% ($p = 0.0006$). The overall satisfaction was slightly higher in the surgical group but almost equal percentage of both groups mentioned that they will recommend the method to a friend. No serious side effects or complications were reported in the misoprostol group. The incidence of excessive post-abortive bleeding was more in the misoprostol group than in the surgical evacuation group ($p = 0.0336$). Also endometrium using transvaginal ultrasonography was significantly thicker in the misoprostol group than in group II ($p = 0.0071$) but with no clinical importance as it was not associated with severe vaginal bleeding necessitating medical or surgical interventions.

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Conclusion: Although vaginal surgical evacuation is more effective than misoprostol in solving the problem still medical treatment is effective and acceptable especially when surgical management is not available or risky or patients refuse to do surgical management.

1. Introduction

Approximately 11–15% of pregnancies end in spontaneous first-trimester miscarriage (1). Vaginal surgical evacuation of retained products of conception (RPOC) was the main stay of treatment for a long time to reduce complications such as infection and unscheduled hemorrhage. However, surgical management may be complicated with infection, uterine perforation or bowel damage (2). This paved way to more recourse to medical and expectant management. Expectant management for incomplete abortion in the first trimester after use of misoprostol or after spontaneous abortion may be practical and feasible, although it may increase anxiety associated with the impending abortion (3,4). The available Cochrane systematic review evidence suggests that expectant care as well as medical treatment with misoprostol are acceptable alternatives to routine vaginal surgical evacuation (5).

Misoprostol as a thermostable prostaglandin E1 analogue has been previously tested in the management of incomplete miscarriage in different regimens and settings (6–8). Overall results indicate efficacy, effectiveness and acceptability in most of these studies. Some other studies used the sublingual route instead of the oral or vaginal route for uterine evacuation after early pregnancy failure (9–12).

The aim of this study is to assess the effectiveness and acceptability of using vaginal misoprostol for management of first trimester spontaneous incomplete abortion as an alternative to direct vaginal surgical evacuation in our setting.

2. Patients and methods

2.1. Inclusion and exclusion criteria

This is a prospective comparative study performed in a private practice with a University affiliation during the period from April 2009 to October 2011. This study included 147 pregnant women between 8 and 12 week cases requesting medical management for spontaneous first trimester incomplete abortion. Patients who are hemodynamically unstable, septic abortion, fever, bronchial asthma or known hypersensitivity to misoprostol were excluded. All patients signed a written informed consent before recruitment into the study.

The diagnosis of incomplete abortion was confirmed by transvaginal ultrasonography examination using a Sono ACE 9900 Prime Multi-beam 3-D Ultrasound System (Medison, Korea) check for the presence or absence of retained products of conception. The eligible patients were divided into two groups according to patients' choice; group (I) received misoprostol tablet 400 mcg (Cytotec, Serono) every 4 h for a maximum of three doses while group (II) did not receive any uterotonics and directly underwent vaginal surgical evacuation under general anesthesia by the standard technique of the hospital. All patients were followed up for the first 24 h for abdominal pain scores, vital signs; presence of excessive vaginal bleeding defined as the presence of vaginal bleeding more than menstrual blood with or without presence of blood clots. Abdominal pain was treated when necessary by oral ibuprofen, 400 mgm, single oral dose and repeated when needed every 6 h for a maximum of 2 days.

Patients were observed for the severity of pain and passage of products of conception per vagina as well as for severity of vaginal bleeding. Any of the patients who had vaginal bleeding more than usual was checked by transvaginal ultrasonography. If intrauterine contents other than blood clots were seen, vaginal evacuation of retained products of conception, under general anesthesia was performed. If only blood clots and thickened endometrium >15 mm were noted, oral methylergonovine (methergin tablets, Sandoz Pharmaceuticals) 0.2 mg was prescribed at a dose of two tablets per day for three successive days. Patients with no excessive bleeding were discharged home 12 h after vaginal surgical evacuation in group II or after confirming complete uterine emptying using transvaginal ultrasonography in the misoprostol group.

All participants were requested to come for a follow-up visit after one week. The patients were asked about the amount and duration of vaginal bleeding, fever, pelvic pain (using visual analogue score), or passage of fleshy parts per vagina. They were asked also about their satisfaction for the method they chose for the management of their condition, whether they will recommend this method to a friend as well as about any experienced side effects. Transvaginal ultrasonography examination was performed to all patients who came for the follow up visit, to measure the endometrial thickness at the maximum anteroposterior diameter on the long-axis view of the uterus. An incomplete abortion is associated with a prominent endometrial echo (thickness greater than 5 mm) round or oval echogenic intra-cavitary lesion, high-intensity echogenic foci associated with acoustic shadowing, fluid in the uterine cavity, and is stippled echo pattern (Fig. 1).

Endometrial cavity after complete abortion showed no content with normal thickness (Fig. 2).

2.2. Pain scoring

Pain was assessed during the hospital stay four hourly and during the follow up visit, visual analogue scoring (VAS) was used by means of a 10-cm line with verbal anchors saying "no pain" at one end and "excruciating pain" at the other end.

The primary outcome measure was the effectiveness of misoprostol for completion of evacuation in cases of incomplete abortion. Secondary outcomes included the proportion of patients reporting severe pain or bleeding within and after 10 days, and the presence of any adverse effects or major complications and patient satisfaction with the method.

2.3. Statistical analysis

Data were statistically described in terms of mean and standard deviation ($\pm$SD). Comparison of the studied groups was done