Original Article

Medical Management of First Trimester Missed Abortion Using Single Dose of Vaginal Misoprostol

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Abstract:
Objective: The objective of the study was to evaluate the efficacy and safety of vaginal misoprostol in termination of first trimester missed abortion. **Methods:** This was a prospective study carried out from January 2018 to December 2018 among women of first trimester missed abortion attending the private chamber and in Gyne department of Rangpur Medical College Hospital. The inclusion criteria were gestational age of less than 12 weeks. The exclusion criteria were patients with gestational age more than 12 weeks, bronchial asthma, heart diseases. A total 80 patients at 7-12 weeks of gestation of missed abortion requiring termination of pregnancy were included. Single dose of misoprostol 2 tablets of 800 ugm was placed high in vagina (posterior fornix). Women were advised to come after 7-10 days for followed up. **Result:** Successful abortion observed in 74 (92.5%) patients. Six (7.5%) patients needed surgical evaluation due to incomplete abortion and non-responding to vaginal misoprostol. **Conclusion**: A single dose of 800 ugm vaginal misoprostol is a safe, effective and economic drug for induction of first trimester missed abortion.

Indexing words: Vaginal misoprostol, Missed abortion

Introduction:
Abortion is one of the most common complications of pregnancy occurring in clinically recognized pregnancies.[1] One third (30%) of worlds maternal deaths occurs in South Asia (Bangladesh, Nepal, India, Pakistan and Srilanka) and approximately 13% of them are related to abortions and its procedures.[2]

Missed abortion occurs when the embryo or fetus has died, but a miscarriage has not yet occurred.

Missed abortion is a case of worry both for the patient and the gynecologist. There are different treatment options available for treatment of early pregnancy. Surgical evacuation including dilatation and curettage, manual vacuum aspiration was the treatment of choice before medical treatment. But due to increased morbidity associated with surgical procedure, studies are going on to determine the efficacy and safety of medical treatment.[3]

Prostaglandins have emerged as the agents of choice for medical treatment of first trimester pregnancy loss. There are reports of use of vaginal misoprostol alone for abortion and of claims that it is better than oral misoprostol.[4]

Vaginal route appears to be the most effective than sublingual and oral being the least effective. Sublingual misoprostol needs a more frequent administration i.e. every three hours to achieve a similar effectiveness to the vaginal route.[5,6,7]

Vaginal misoprostol causes gradual non traumatic dilatation of cervix, separation and expulsion of products. Few cases require surgical evacuation (MVA) to remove retained products.

So, the aim of the present study was to evaluate the efficacy and safety of vaginal misoprostol in termination of first trimester missed abortion.

Methods:
This was a prospective study carried out from January 2018 to December 2018 among women of first trimester missed abortion attending the

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private chamber and in Gyne department of Rangpur Medical College Hospital. The inclusion criteria were gestational age of less than 12 weeks. The exclusion criteria were patients with gestational age more than 12 weeks, bronchial asthma, heart diseases. A total 80 patients at 7-12 weeks of gestation of missed abortion requiring termination of pregnancy were included. Single dose of misoprostol 2 tablets of 800 ugm was placed high in vagina (posterior fornix). Women were advised to come after 7-10 days for followed up.

Result:
A total of 80 patients were included in the study. The demographic characteristics of patients are shown

Age range was from 16-40 years and parity range from primigravida to grand multipara.

Table 1: Demographic characteristic of the patients

Age in year	Number of patients	Percentage
16-20	24	30%
21-30	38	47.5%
31-40	18	22.5%
Parity		
Primigravida	60	75%
1-4	12	15%
>4	8	10%

Table 2 shows the side effects of misoprostol. Among 80 cases, 6 - cases had minor side effect like - Nausea, Pyrexia, & 2 cases had heavy bleeding, & 2 cases had severe pain. 70 cases did not show any significant side effect.

Table 2: Side effects with misoprostol

Side effects	Number of patient	Percentage
Nausea	2	2.5%
Pyrexia	4	5%
Heavy bleeding	2	2.5%
Severe pain	2	2.5%

Table 3 shows the interval between induction and abortion. Among 80 cases, 70 cases had complete expulsion within 48 hours & 2 cases after 48 hours, 4 incomplete abortion & 2 had no response.

Table: 3 Induction-abortion interval

Interval in hours	Number of patient	Percentage
<8	02	25%
8-16	52	65%
>16-24	12	15.5%
>24-48	06	7.5%
>48-7 days	02	2.5%

Patient advised to come after 7-10 days of misoprostol and ultrasonography (USG) was done to see uterus and product of conception present or not within the uterus.

Our outcome measures included induction expulsion interval, success rate and the occurrence of side effects with vaginal misoprostol.

In our study, 4 patients had incomplete abortion and 2 patients had no response. We managed those patients by MVA (manual vacuum aspiration)

Vaginal misoprostol treatment appeared to be well tolerated. Out of 10 patients, 6 patients had minor complaints, like nausea and pyrexia, 2 patients had heavy bleeding and needed blood transfusion and 2 patients had severe pain which was treated by tab. Paracetamol 3 doses. Routine antibiotic coverage was not necessary.

Discussion:
Missed abortion is a common complication of early pregnancy, occurring upto 15% of clinically recognized pregnancies.[8]

Due to wider availability of ultrasonography, most of the patients were diagnosed by USG before symptoms of missed abortion appear like vaginal bleeding or brownish vaginal discharge associated with lower abdominal pain.

In the last two decades, medical termination of pregnancy has become a safe alternative to vacuum aspiration and dilatation and curettage.[9]

Traditional methods of surgical evacuation of uterus are associated with major morbidity in upto 1% women and minor morbidity in 10%.

Recently misoprostol regimen has become more widely available and is now considered to be the gold standard for early pregnancy termination.

In our study successful abortion occured in 74 cases (92.5%). It is in accordance with other cases studies. [10,11,12,13]

In a study by Refaey et al it was found that vaginal misoprostol administration was more effective than the oral route. The local effect of misoprostol on the cervix was considered to be one of the reason.[14]

Our study demonstrates that vaginal administration of misoprostol is very effective. This may be because of higher uterine levels of misoprostol due to direct absorption from the posterior fornix and local effect of misoprostol on uterine cervix.

Zalanyi[15], and Thomas and Habeebullah[16] have successfully managed missed abortion medically without progesterone antagonist. Lee et al[17] also indicates that the medical treatment of abortion with misoprostol is psychologically safe and has higher client acceptance and satisfaction rate.

Medical method avoids complications like uterine perforation, uterine synechia, cervical stenosis and also saves expenditure on operation and anesthesia.

However, our rate was higher than the rate of 80% reported by Peterson et al from Australia.[18]

Oral and sublingual administration of misoprostol is associated with more gastrointestinal side effects than vaginal route.[19]

In our study, vaginal route was used for administration of misoprostol. It is more effective and less GIT effect.

Incidence of pyrexia 5%, nausea 2.5%, severe pain 2.5 %, heavy bleeding 2.5% and no side effect 70% of patients.

Side effects of misoprostol recorded in this study were largely minor and self limiting. This is consistent with established data.[20]

Treatment of missed abortion with misoprostol has been reported with varying degree of success**.**

Misoprostol is widely available. It is low cost and stable at room temperature; it is easy to use both for the patients and clinicians. It is thus an excellent choice of treatment for use in low resource setting.[21]

The effectiveness of treatment with misoprostol depends on the time interval to follow up. To avoid unnecessary interventions to the assessments of success should be delayed for at least 7to 10 days. So to get most effective result a single dose of vaginal misoprostol (800µmg) is recommended for inducing missed abortion.

Conclusion:

It can be concluded that medical management of 1st trimester missed abortion with single dose of vaginal misoprostol (800µgm) is a safe, effective, economic with high success rate(more than 90%) and better client acceptance and reducing the need for surgical evacuation and its complications. However this becomes safe and easy because it opens cervix, separates product and contracting myometrium.

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