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Original Research Article

Oral Misoprostol for Treatment of 1st Trimester Incomplete Abortion

Mahbuba Akhter[1*], Sabiha Shimul[2], Rina Haider[3]

[1]MBBS, FCPS, Professor, Department of Gynae & Obs, US-Bangla Medical College Hospital, Dhaka-Sylhet Hwy, Narayanganj, Bangladesh
[2]MBBS, FCPS, Assistant Professor, Department of Gynae & Obs, US-Bangla Medical College Hospital, Dhaka-Sylhet Hwy, Narayanganj, Bangladesh
[3]MBBS, FCPS, Senior Consultant, Square Hospital, Dhaka, Bangladesh

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***Corresponding author:** Mahbuba Akhter
MBBS, FCPS, Professor, Department of Gynae & Obs, US-Bangla Medical College Hospital, Sohrowardi Avenue, Baridhara Diplomatic Zone, 77 Dhaka - Sylhet Hwy, South Rupshi 1213, Bangladesh

Abstract

Background: Abortion or miscarriage is a common health intervention. Incomplete abortion is a term given to miscarriage where there are retained product of conception still within uterus. Complications of incomplete abortion includes haemorrhage, infection, shock even DIC (Disseminated intravascular coagulation). Treatment of incomplete abortion has traditionally been surgery like D&C or MVA. Though these treatments are effective but they require specialized equipment, trained person and associated with dangers like uterine trauma, perforation, bleeding to instrumentation, infection & reaction to anaesthesia. For these reasons determining an effective nonsurgical approach for treatment of incomplete abortion is important. ***Materials & Methodology****:* During the period of June 2021 to December 2022, 100 women diagnosed as incomplete abortion, were selected in Popular Diagnostic Centre (Badda, Dhaka) and in US-Bangla Medical College Hospital (Narayanganj) as per inclusion criteria and treated with Tablet Misoprostol 600µg orally and success to treatment was noted. ***Results:*** Treatment was found successful in 94% cases. 6% Cases needed MVA. Among 94% cases 32% was successful after 1st dose of Misoprostol and 62% was after 2nd dose of Misoprostol. ***Conclusions:*** Oral Misoprostol is very effective method with high patient satisfaction.

Keywords: Incomplete abortion, Miscarriage, MVA (Manual Vacuum Aspiration), Misoprostol.

INTRODUCTION

Miscarriage occurs in up to 15% of pregnancies and it commonly presents as bleeding during first trimester [1]. When incomplete abortion has been diagnosed, treatment options are expectant management, medical management and surgical management. Expectant management allows for spontaneous evacuation of the uterus. Expectant management is not preferred due to its relatively low efficacy & the fact that the time interval to spontaneous expulsion is unpredictable [2]. Surgical treatment requires trained provider, special equipment, sterile condition & often anesthesia, all of which are limited in many settings [2]. Medical management of incomplete abortion require few resources and can be administered by low & mid level providers [3]. Misoprostol is the most common and thoroughly studied form of medical management and offers a highly effective alternative treatment for women who wishing to avoid invasive surgery and anesthesia [4]. Misoprostol is also widely available, easy to administer, accessible, inexpensive in most countries. Misoprostol offers women and providers a safe, effective and non invasive treatment option for incomplete abortion, that is particularly useful where resources are limited & skilled health care providers are few. Dose of tablet Misoprostol for 1st trimester incomplete abortion is recommended 400 µg sublingually or 600 µg per orally [5].

OBJECTIVE

The aim of the study was to observe the effectiveness of oral tablet Misoprostol in the treatment of Incomplete Abortion, which is easily available, cost effective & noninvasive method.

MATERIALS AND METHODOLOGY

The present study was conducted at Popular Diagnostic Centre (Badda, Dhaka) and at US Bangla Medical College Hospital (Narayangonj), from June 2021 to December 2022, with a sample size of 100 women. Women who presented with 1st trimester pervaginal bleeding had clinical ultrasonogram of lower abdomen, blood grouping & Rh typing and complete blood count. Diagnosis of incomplete abortion was confirmed from ultrasonogram findings. Women were counseled about available treatment options & there risk, benefits. Women who chose medical treatment option, they were again informed about adverse effects of oral Misoprostol like risk of heavy bleeding, cramping pain, vomitting, loose stool, fever, need of repeat dose of Misoprostol & even need of surgical evacuation if unsuccessful. Then they were given tablet Misoprostol 600µg orally. Return follow up visit was after 3 days to assess her response and again after one week when ultra-sonogram of lower abdomen was done. Along with routine follow up visits information, they were also instructed about warning sign like heavy bleeding, (making 2 pads per hour for 2 consecutive hour), foul smelled pervaginal discharge, fever lasting for >24 hour, when they will need urgent medical attention. On follow up ultrasonogram, if uterus was empty or with tiny product and clinically women had no per-vaginal bleeding, treatment was considered successful. If women still had bleeding, cramping pain in lower abdomen and uterus had retained product of conception, retreatment was considered. At this point options given for second dose of tab Misoprostol (600 µg) or for surgical procedure. If second dose of Misoprostol was the option, women again had ultrasonogram after another one week. When second dose of Misoprostol was found unsuccessful, MVA (Manual vacuum aspiration) was performed. After MVA again ultrasonogram was done to confirm completeness of the surgical procedure. Data was collected on gestational age at abortion, choice of treatment, adverse effects, USG results, need of repeat dose of Misoprostol and on need for MVA.

Inclusion Criteria:

- Women with miscarriage up to 12 week of gestation
- Ultrasmogram confirms incomplete abortion.
- Hemodynamically stable.

Exclusion Criteria:

- Known to have allergy to Misoprostol.
- Hemodynamically unstable.
- Clinically have sign of infection or sepsis.
- Suspected ectopic pregnancy.

RESULT

During the period of study, 105 women presented with 1st trimester incomplete abortion. All women were counselled about treatment options. Among them 100 women who chose Misoprostol treatment were included in the study. We found 5 women preferred surgical evacuation. They wanted immediate treatment and they feared cramping pain during treatment process and also the may need of surgical evacuation, after failed medical treatment. No women opted expectant management.

Table 1: Treatment options preferred by women during inclusion in study

Treatment option	No. of women	percentage
Expectant	0	0.00
Surgical Evacuation	5	4.76
Medical Treatment	100	95.24

Of all the included women for study, 45% had ≤8 weeks pregnancy, 32% had >8 - ≤10 weeks pregnancy, 20% had >10- ≤12 weeks pregnancy. Among all the 100 women who got 600µg Tab. Misoprostol, 32(32%) women were cured with single dose Misoprostol treatment. 2% had excessive Peer vaginal bleeding after lst dose and they were treated by MVA.

Table 2: Gestational age at Miscarriage

Gestational age in week	Frequency	Percentage
≤8	48	48%
>8-≤10	32	32%
>10-12	20	20%

Rest 66 were given 2nd dose of Misoprostol treatment. After 2nd dose of Misoprostol 62 women was found having no retained product of conception on repeat ultrasonogram exam. But 4 women had still retained product of conception after 2nd dose and they were treated by MVA. Total 6% women were treated by MVA (2% for heavy bleeding and 4% for retained product of conception after 2nd dose of Misoprostol). After MVA, again ultrasonogram was done, where uterus was found empty.

Table 3: USG findings after treatment

Findings	After 1st dose Misoprostol	After 2nd dose Misoprostol	After MVA
No product	32%	62%	6%
Moderate product	66%	4%	-

Table 4: Result of medical treatment in 100 women

Treatment got	No. of women	successful treatment
1st dose oral Misoprostol	100	32(32%)
2nd dose oral Misoprostol	66	62(93.93%)
MVA	6	6(100%)

Regarding adverse effects 2% had heavy PIV bleeding after 1st dose, 11% women had severe cramping pain, 6% reported hyperthermia and 5% had loose stool. No one needed blood transfusion and also no women not noted to develop post treatment pelvic infection.

Table 5: Adverse effects after Misoprostol treatment

Adverse effect	No of women	percentage
Heavy bleeding	2	2%
Infection	0	0%
Sever Cramping pain	11	11%
Vomiting	7	7%
Loose stool	5	5%
Hyperthermia	5	5%

DISCUSSION

Misoprostol, a prostaglandin E, analogue, has been used off level for many years, as a safe, effective, cheap, acceptable alternative to surgical evacuation for treatment of incomplete abortion. It can be given in both outpatient and inpatient settings. Misoprostol cause cervical ripening and stimulate uterine contraction. In Our study, Misoprostol was successful after 1st dose 32% and 94% successful after 2nd dose of Misoprostol. For treatment of incomplete abortion of gestational age ≤12, the role of Misoprostol is well documented [6]. Successful use of Misoprostol implies complete evacuation of uterus without retreatment to surgical intervention. This is an extremely high success rate and it is in line with these previously reported. Studies that enrolled ≥ 100 women and used Misoprostol, efficacy average 95%, with success rate as high as 99% [7].

Regarding adverse effects excessive pervaginal bleeding was found in two cases where women were 11 to 12 weeks pregnant, had previous 2 caesarean deliveries and initial ultrasonogram showed moderate product of conception. These features explain the cause of excessive bleeding. However, excessive bleeding in these 2 cases did not resulted blood transfusion and they were timely managed with MVA. Regarding infection risk, no woman in the study developed infection. Other studies suggest infection rate in women who receive Misoprostol treatment for incomplete abortion is similar to the rate in women who receive other treatments [8, 9]. Minor adverse effects like cramping pain in lower abdomen, fever, some bleeding, vomiting, diarrhoea which were experienced during Misoprostol treatment, were managed symptomatically. Regarding patients preference about treatment options, 95.24% wanted Misoprostol and 4.76% preferred MVA. Expectant management was denied by all women. This explains no one wants to wait it out. 4.76% cases who preferred MVA, opted surgical evacuation, as they wanted immediate treatment and they feared the risk of cramping pain, bleeding and the risk of failed treatment. The 95.24% preference for medical management explains the universal less acceptance for surgical procedures. In our study 6 cases needed retreatment with MVA (2 cases for excessive per vaginal bleeding and 4 cases for retauned product of conception after medical treatment) which they wanted to avoid but Misoprostol treatment was not successful there. At the end patient satisfaction was very high (100%) with Misoprostol treatment. Even women who needed MVA for failed medical treatment, appreciated the trying with Misoprostol treatment. This fact supports some studies where women have reported being "very satisfied" with Misoprostol treatment than MVA treatment [7, 10, 11].

LIMITATIONS OF THE STUDY

The study was conducted with a small sample size. So the result may not represent the actual success rate of the Misoprostol treatment of Incomplete Abortion.

CONCLUSIONS

Misoprostol has been suggested as an effective drug for the treatment of incomplete abortion [11-13]. International studies have compared and found no

significant difference in effectiveness between Misoprostol treatment and surgical treatment with MVA [1, 10, 14, 15]. In low resource settings, Misoprostol in post-abortion care, can be simplified, cost effective, resource saving highly accepted alternative to surgical intervention.

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