Vaginal Misoprostol Alone is Effective in the Treatment of Missed Abortion

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The objective of the study was to find out the efficacy and safety of misoprostol in termination of missed abortion. This was a prospective study carried out during the time from March 2011 to February 2012 in gyane and obstetric department of BIRDEM. A total 50 cases of missed abortion upto 13 weeks were included in this study. Tablet Misoprostol 200 µg was used per vaginally 4 hourly for termination of pregnancy. Maximum 4 tablets were used. In this study 64% (32 out of 50) experienced complete expulsion (34.37% after 1st dose, 25% after 2nd dose and 18.75% after 3rd dose and 21.87% after 4th dose). 16% cases needed for oxytocin drip as an adjunct and 20% needed surgical evacuation when 4 doses of misoprostal and oxytocin fail to expel the product of conception. Mean(± SD) time required for expulsion of product of conception was 11.5±8.5 hours in 32 (64%) women who were given tab. Misoprostol only. The results showed that 11(out of 32) has a complete expulsion after first dose, 8 after second dose, 6 after third dose, 7 after fourth dose. Vaginal application of misoprostol can be used to woman with missed abortion for complete expulsion of product of conception and may reduce the need for surgical intervention.

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Key words: Misoprostol, Abortion

Introduction

Abortion or miscarriage is the spontaneous end of pregnancy at a stage when the embryo or fetus is incapable of surviving independently, generally defined in humans of prior to 20 weeks of gestation. More than 50% of human pregnancies may be lost[1] although in only in 15% in this perceived as miscarriage.[2] The incidence of this type of abortion is very high during first trimester and decreases with increasing gestational age. Of many type of abortion, missed abortion occurs when the embryo or fetus has died but miscarriage has not yet occurred. The retention of fetus known to be dead for >4 weeks. The cervix is closed and there is no or only slight bleeding. Ultrasound examination shows an empty gestational sac or an embryo/ fetus without cardiac activity.[3]

The standard treatment of both spontaneous and missed abortion used to be surgical evacuation of uterus[4] but expectant management or medical treatment are becoming reasonable alternatives.[5,6] Medical treatment commonly consists of administration of a progesterone antagonist (mifepristone) followed by some form of prostaglandin (misoprostole) to induce uterine contraction and expulsion of product of conception. The administration of mifepristone is invariably oral but different prostaglandins may be given in different ways- parentral, oral[7] or local (intra-vaginal).[8] Studies have demonstrated that the vaginal administration of misoprostol may be more effective than oral route.[9] In cases of missed abortion the administration of mifepristone may be superfluous, as progesterone levels are in the range of luteal phase[5] (i.e lower

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than in viable pregnancies). The idea of omitting antigestagen pretreatment was further supported by the successful administration of misoprostol alone in medical termination of pregnancy.[10] Therefore a trial was designed to treat women with ultrasonographically diagnosed missed abortion by vaginal administration of misoprostol.

Recently a small randomized study compared the efficacy of vaginal versus oral administration of misoprostol[11] in the treatment of missed abortion. A large single dose (400µg orally Vs 800µg vaginally) was administered and repeated after 24 hours if no expulsion occurred. If misoprostal proves safe and effective, a large number of patient will be benefited and will escape from surgical intervention and complication.[5] The present study was done to find out the efficacy of vaginal misoprostol for safe termination of missed abortion.

Methods

This was a prospective study done in obstetric and Gyaneology department of BIRDEM during a period of March 2011 to February 2012. During this period all admitted cases of missed abortion upto 13 weeks gestational age, 50 cases were selected for present study. Age of the patient who participated in this study was between 20-40 years. Only clinically diagnosed (within 13 weeks pregnancy) and ultrasonographically confirmed cases of missed abortion were included in this study.

Patient with known hypersensitivity to prostaglandins and women having previous history of more than one caesarean sections were excluded from this study.

After taking detailed history and performing examination, an ultrasonography was done which is an integral part of diagnosis for missed abortion. After taking informed written consent, tab. misoprostal (200 µg) 1 tab was introduced through vagina in the posterior fornix. The doses were repeated every 4 hours for a total of 4 doses or until expulsion of gestational sac. Follow up was given at 4 hour interval or whenever the patient complaints of any problem. If the patient did not respond, the decision for other methods- like oxytocin induction or surgical evacuation was taken. An USG was done after 24 hours of expulsion to confirm complete abortion.

Results

The study group comprised of 50 cases of missed abortion (upto 13 weeks), of which, 32 (64%) women required only tab misoprostol for expulsion of gestational sac and 8 (16%) women required oxytocin drip additionally. However the rest 10 (20%) women required (D&C) when tab misoprostol and oxytocin drip failed to expel the gestational sac completely (Table I). Mean (± SD) time required for expulsion of product of conception was 11.5±8.5 hours in 32 women who were given tab misoprostol only, 20.±2.0 hours in 8 women who were given tab misoprostol followed by oxytocin drip and 21.0±1.0 hours in 10 women who required D&C when tab misoprostol and oxytocin drip failed to expel the product of conception completely (Table II). Vaginal misoprostol treatment appeared to be well tolerated. Out of 5 patients with minor complaints, only 1 patient showed significant gastrointestinal side effect e.g. diarrhoea. None of the patients developed any major complications like haemorrhage, perforation of uterus, rupture of uterus, coagulopathy etc (Table III). Table IV shows ultrasonographic evaluation after expulsion of product of conception , complete expulsion of product of conception was achieved by only misoprostol in 32 (64%) cases, but misoprostol plus oxytocin in 8

(16%) cases and misoprostol plus oxytocin plus D&C in 10 (20%) cases.

Table I: Procedure required for expulsion of gestational sac

Procedure		Number of patients	Percentage (%)
Tab misoprostol only		32	64.00
	Doses required:		
	1	11	34.37
	2	8	25.00
	3	6	18.75
	4	7	21.87
Tab. Misoprostol followed by oxytocin drip		8	16.00
Tab. Misoprostol followed by oxytocin drip and then surgical evacuation(D&C)		10	20.00

Table II: Induction-expulsion interval in relation to mode of induction

Mode of induction	Expulsion time(hours)	Range	Mean ± SD
Tab. Misoprostol	32	3.00-20.00	11.50±8.5
Tab. Misoprostol + Oxytocin drip	8	18.00-22.00	20.00±2.0
Tab. Misoprostol + Oxytocin drip + D&C	10	20.00-22.00	21.00±1.

Table III: Side effects

Side Effects	Number of patients	Percentage (%)
Nausea	2	4.0
Fever	1	2.0
Vomiting	1	2.0
Diarrhoea	1	2.0

Table IV: Ultrasonographic evaluation after expulsion of product of conception

Procedure	Complete expulsion (%)	Incomplete expulsion (%)
Tab. Misoprostol	64	0
Tab. Misoprostol + Oxytocin drip	16	0
Tab. Misoprostol + Oxytocin drip + D&C	20	0

Discussion

Missed abortion is a common complication of early pregnancy, 15% of all clinically recognized pregnancies.[7] The majority of cases are currently treated by dilatation and curettage (D & C). The rationale that all spontaneous abortion should be treated with D&C to prevent infection and haemorrhage has been questioned.[8]

Treatment of incomplete abortion with misoprostol has been reported with varying degree of success [9.10]. With the rising use of early Ultrasound, an increasing number of miscarriages present as missed abortion before the onset of cramping and bleeding. A small case series reported that seven out of eight women with missed abortion had a complete abortion after treatment with vaginal misoprostol compared with 3 out of 12 treated by oral route.[11]

This study was carried out to find out the efficacy of misoprostol in the expulsion of product of conception with special attention to the number of doses required and induction – expulsion interval and need for additional oxytocin/ surgical evacuation.

In a study, conducted by Zalanyi (Hungary), Tab Misoprostol (200µg) was used vaginally for expulsion of product of conception in missed abortion[12]. The result showed that 5 out of 25 have complete expulsion after 1st dose, 13 after 2nd dose, 4 after 3rd dose and the

mean induction- expulsion time was 6.1 hours(calculated only for successful cases). Three patients did not abort even after 4 doses, who required surgical evacuation of the uterus. There was no complications.[12]

In a study, carried out by Wood 80% patient aborted completely after use of 800 µg of misoprostol tablet vaginally.[13] It may be noted that dose used was quite high in comparison to the present study.

In both the above studies, vaginal misoprostol was found to be quite effective in expulsion of product of conception in missed abortion cases, reducing the need for surgical evacuation.

In our study, 64% (32 out of 50) experienced complete expulsion (34.37% after 1st dose, 25% after 2nd dose, 18.75% after 3rd dose and 21.87% after 4th dose). 16% cases needed oxytocin drip as an adjunct and 20% needed surgical evacuation when four doses of misoprostol and oxytocin failed to expel the product of conception.

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]

In a study, conducted by Barua, in Bangladesh using two tablets of misoprostole (400µg) vaginally,it was found that 60.71% had complete expulsion and among these, 42.85% patients responded with 1st doses of 400µg misoprostole. Only one patient (out of 56) developed severe bleeding.[15]

In this study, no life threatening complications were observed like massive haemorrhage, perforation of uterus ,spontaneous rupture of uterus, coagulopathy etc.

Conclusion

From this study it is anticipated that medical management of missed abortion with vaginal misoprostol will prove to be a good alternative to surgical evacuation.

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