Original Articles

Misoprostol in the Management of Missed Abortion

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KEY WORDS : ·missed abortion, 1st trimester, 2nd trimester

ABSTRACT:

Objectives: The aim of study is to evaluate the safety, efficacy and reliability of regimen of vaginal misoprost as a medical method of termination in 1st& 2nd trimester missed abortion.

Method :

It is a prospective study carried out in90 women of missed abortion confirmed by transvaginal ultrasound. After fitness and consent, Misoprostol tablet 200 µgm was inserted vaginally every 4 hours of maximum 5 doses. Time for latent period and induction abortion interval was noted and all patients monitored carefully. Surgical evacuation was performed when complete exclusion was not documented on ultrasound after 24 hours of treatment.

Result :

Complete medical evacuation occurs in 54 women (60%)

Mean induction abortion interval was 13.37 hours

Conclusion :

Misoprost is a safe reasonably effective medical method in inducing complete evacuation in missed abortion.

AIMS AND OBJECTIVES

This is the prospective study of 90 cases of missed abortion terminated by vaginal Misoprostol.

I. To determine the efficacy and reliability of intravaginal use of Misoprostol

II. To evaluate safety of Misoprostol.

III. To analyze results.

INTRODUCTION

Missed abortion is a cause of worry both for the women and gynecologist. The commonly practiced method of managing missed abortion is Dilatation-Evacuation. This increases the chance of incomplete evacuation, cervical trauma and perforation of uterus. However medical method of abortion is now establishing them in clinical practice.

Misoprostol is a prostaglandin E1 analogue that has lower cost, longer shelf life at room temperature and fewer side effects then the E2 analogue. The cervical ripening and uterotonicproperties of misoprost make the drug very useful[1]. Two review articles have collated and summarized evidence-based recommendations for using Misoprostol for second trimester pregnancy termination, one when involved a live fetus [2] and the other following intrauterine death [3]. This study evaluates the efficacy of a regimen of intra vaginal misoprost (6 to 20 weeks) in the resolution of 1st trimester and 2nd trimester missed abortion with a closed cervical os. When complete drug induced expulsion didn't occur within 24 hours, the cervical priming properties of Misoprostol were used to perform a surgical evacuation of uterus.

MATERIALS AND METHODS

Study design: This is the prospective study of 1st and 2nd trimester missed abortion terminated by intravaginal Misoprostol tablet. The study was conducted in LabourRoom of Department of Obstetrics and Gynecologyat ShethV.S. General Hospital, Ahmedabad.

Sample size: The study was conducted in group of 90 patients admitted for termination of 1st and 2nd trimester missed pregnancy from July 2016 to January 2018.

After admission detailed history was elicited, clinical examination, vital data, obstetric examination and routine investigations were carried out. An intrauterine missed

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abortion diagnosed and confirmed by pelvic examination and ultrasound(TVS).

Inclusion criteria :

- The interval of their last normal menses didn't exceed 20 week.
- Hemodynamically stable.
- A closed cervical os was found on bimanual examination.
- No clinical sign of anemia or hemoglobin count was > 10 mg/dl.
- Axillary temperature was 37.50C.
- No previous history of inflammatory bowel disease or allergy to Misoprostol.
- No active glaucoma or heart disease
- No history of asthma or hematological disorder.

Misoprostol is a synthetic PGE1 analogue[4,5]. It is water soluble, stable at room temperature, easy to transport, easy to administer and does not require refrigeration in hot climate[5]. Tablet misoprostis rapidly absorbed orally, plasma concentration peakincreases rapidly (30min) and also declinesrapidly[6] while in intravaginal route, slower increase and lower peak plasma concentration (1-2 hours) but overall exposure to the drug is increased. For that reason, intravaginal route was used.

The treatment was started during the morning with 200 mcgm of misoprost, previously soft in saline, placed in the posterior vaginal fornix, this was repeated every 4 hours for a maximum of five doses if patient aborted earlier further dose was not administrated. All women were monitored for pulse, blood pressure, abdominal cramps, vaginal bleeding and expulsion of products of conception. Completeness of abortion was declared after ultrasound scan.

The spontaneous expulsion time was defined as time taken from insertion of 1st dose of drug to the time when the product of conception was seen in the vagina or protruding through the cervical os.

Patients were given liquid orally during study.

Incomplete abortion cases were managed by evacuation under anesthesia after 24 hour of 1st dose. The side effects such as nausea, vomiting, diarrhea and abdominal cramps requiring medicine were based on nursing observation & individual women's complaints.

All women receive 500mg ampicillin + 500mg cloxacillin IM 8 hourly.

Women were observed for 6 hour after complete abortion or surgical evacuation before discharge from hospital.

Primary outcome: measured was drug inducing complete expulsion of conception products.

Secondary outcome: measures were reported side effects, pain medications and permeability of cervical canal at surgical evacuation. The later was defined as the ability to pass a number 8 Hegar's dilator. Histologically confirmed products were identified in all cases.

OBSERVATION AND DISCUSSION

The study was conducted in group of 90 patients admitted for termination of 1st and 2nd trimester missed pregnancy from July 2016 to 2012.

Out of 90 patients 54 women were aborted completely within 24 hours, 36 patients were having incomplete abortion required emergency check curettage under local anesthesia after 24 hours of 1st dose.

The mean age of the studied population was 24 years (range 20-32) and the average interval from the last menstrual period was 8.2 weeks (6-16).

46 women (51%) were nullipara,

28 women (31%) were para one,

15 women (16%) were para two,

1 woman (1%) was para three.

Table 1 : Distribution of cases according to gestational age

Gestational age in weeks (confirmed by USG)	Number-90	Percentage
6-8	74	82%
9-11	12	14%
12-14	2	2%
>14	2	2%

Mean gestational age was 8 weeks.

Table 2 : Distribution of cases according to induction abortion interval

Induction abortion interval (hours)	Number-54	Percentage
4-8	14	26
8-12	22	41
12-16	8	15
>16	10	18

Mean induction abortion interval is 13.37 hours.

Table 3 : Induction abortion interval according to parity

Parity	Number-54	Mean induction abortion interval (hours)
0	30	14.13
1	18	13.44
2	6	9.33

Significant co relation between induction abortion interval and parity.

Table 4 : Induction abortion interval according to gestational age

Gestational age in weeks	Number	Mean induction abortion interval (hours)
6-8	46	14
9-11	2	12
12-14	4	10
>14	2	6

Sensitivity of the uterus increase to prostaglandin with increasing age of the fetus.

Uterus becomes more responsive to uterotonics agents, and thus to lower doses of Misoprostol, as gestation advances [4].

Table 5 : Distribution of cases according to total dose of Misoprostol.

Total dose of Misoprostol in mcgm	Number	Percentage
200-400	26	48
600-800	18	33
>800	10	19

Mean dose of Misoprostol is 607 mcgm.

Out of 90 patients 54 women were aborted completely within 24 hours, 36 patients were having incomplete abortion required emergency check curettage under local anesthesia after 24 hours of 1st dose.

Side effects observed: Abdominal pain in 2 cases which resolved with an oral analgesic.

No cases of scar dehiscence/uterine rupture/requiring blood transfusion.

Chapman et al [7] reported a higher incidence of uterine rupture and hemorrhage with this drug than with mifepristone for women with cesarean scars, where as others have shown it to be relatively safe. [8,9,10].

- Greziosi et al[13] used 800mcgm per day, maximum two doses ,success rate-60%.
- Bagratee et al[14] showed that complete evacuation rate increased from 73%, 2 days after vaginal misoprost treatment to 89%, 1 week after treatment with Misoprostol.
- Ayres et al[15] 600 mcgm Misoprostol every 4 hourly, max 2 doses, success rate-57%.
- Chawla et al[16]success rate of 93.33%, 200 mcgmevery 8 hourly, max 5 doses.
- Mitchell et al[17] 800 mcgmupto max 2 doses, success rate-92%.
- Sakhare Anil et al[18] 200 mcgm every 4 hourly upto max 5 doses, success rate- 88.08%.

Difference in success rate invarious trials is due to different dose regimen, population, selection criteria, sample size and Ultrasound criteria.

In our study 36 patients required check curettage after Misoprostol treatment. None of them had any complication which could be explained by cervical priming effect of misoprost allowing easy surgical access to uterine cavity.

The patients having complete abortion had cost effective benefit, where as surgical evacuation costs much more depending on the treatment center. Patient was satisfied with the treatment as surgical procedure was most often avoided.

CONCLUSION

Use of intravaginal Misoprostol for 1st and 2nd trimester missed abortion is effective, cheap, safe and convenient alternative to surgical evacuation.

Medical methods avoid complications related to intrauterine instrumentation and saves expenditure on Operation Theater and anesthesia.

Its popularity has also been enhanced because of its easy availability, stability, affordability and more importantly predictable and favorable results.

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