Original Research Paper

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Misoprostol in the Management of Missed Abortion:

Gynaecology

KEYWORDS : missed abortion, 1st trimester, 2nd trimester

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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 in 90 women of missed abortion confirmed by transvaginal ultrasound. After fitness and consent of the patients 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 including complete evacuation in missed abortion, when this doesn't occurs it almost always adequate cervical dilatation for surgery.*

INTRODUCTION

Missed abortion is a cause of worry both for the women and gynecologist. The commonly practiced method of managing missed abortion is dilation-Evacuation. This increase the chance of incomplete evacuation, cervical trauma and perforation of uterus. However medical method of abortion is now establishing them in clinical practice. But the drug schedule is not yet established.

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 uterotonics properties of misoprost make the drug very useful [1]. Over the last few years, an increasing number if indication have been proposed for this drug in the field of obstetrics. 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 labour room of department of Obst and gynaecology, at V.S. hospital ,Ahmedabad.

Sample size: The study was conducted in group of 90 patients admitted for termination of 1st and 2nd trimester missed pregnancy from august 2014 to August 2016.

After admission detailed history was elicited, clinical examination, vital data, obstetric examination and routine investigation werw carried out. An intrauterine missed abortion diagnosed and conformed by pelvic examination and ultrasound(TVS).

Inclusion criteria:

The interval of their last normal menses didn't exceed 20 week.

They were haemodynamically stable.

A closed cervical os was found on bimanual examination.

There were no clinical sign of anemia or hemoglobin count was > 10 mg/dl.

Axillaries temperature was 37.5'c.

There was 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]. So , it has potential to significantly expand medical abortion access in developing country like India. Tablet misoprost rapidly absorbed orally, plasma concentration peak increased rapidly (30min) and decline also rapidly[6] while in intravaginal route slower increase and lower peak plasma concentration (1-2 hors) 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 inj cefotaxim 1gm IV 12 hourly.
Women were observed for 6 hour after complete abortion or surgical evacuation before discharge from hospital.

Primary outcome: measured that was evaluated 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. Histological 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 augus 2014 to August 2016.

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,
(31%) were para one,
(16%) were para two,
(1%) was para three.

Table 1
Distribution of case according to gestational age

Gestational age in week(conformed 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 case 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(hour)
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	Numbers	Mean induction abortion interval(hours)
6-8	46	14
9-11	2	12
12-14	4	10
>14	2	6

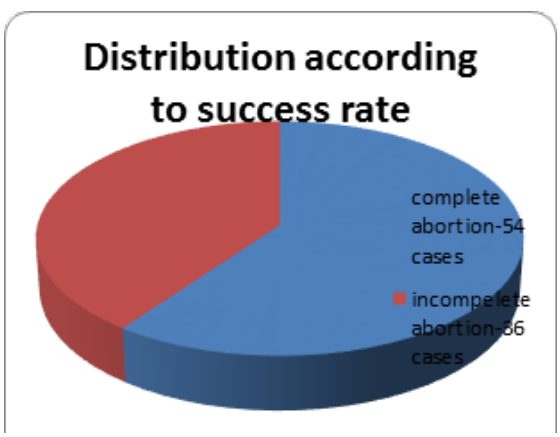
Sensitivity of the uterus increase to prostaglandin with increasing age of the fetus.

It is well known that 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 after giving an oral analgesia.

---no cases of scar dehiscence or uterine rupture was observed.

---no women required blood transfusion.
Our results supports the fact that anti progesterone are not really necessary for medical termination of missed abortion, probably because progesterone level usually low and there for only prostaglandins are required to initiate uterine contraction and expulsion of Gsac. Unfortunately, mifepristone is not available in some countries, including Egypt. This is because of the high cost of this product and its negative connotations. It is known as an emergency contraceptive and

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abortifacient with resulting ethical dilemmas in conservative Muslim societies [5, 6]. Chapman et al [7] reported a higher incidence of uterine rupture and hemorrhage with this drugs than with mifepristone for women with cesarean scars, where as others have shown it to be relatively safe. [8, 9, 10]. (This may be because of higher uterine level of Misoprostol due to direct absorption from posterior fornix and local effect of Misoprostol on uterine cervix).

Geraziosi et al used 800mcgm per day Misoprostol vaginally per maximum two doses and achieve success rate 60%, observation period was 3 days.

Baqsatte et al 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 600 mcgm Misoprostol repeated every 4 hour per max 2 doses. He achieved success rate of 57%.

Chawla et al achieved success rate of 93.33% with 200 mcgm of misoprost repeated every 8 hourly for max 5 doses observation period of 2 days.

Mitchell et al used 800 mcgm of Misoprostol vaginally up to max of 2 dose success rate was 92% observation period was 2 days.

Sakhare Anil et al used 200 mcgm of Misoprostol every 4 hourly up to max 5 doses success rate of 88.08%.

Different on a success rate in a various trial due to different doses regimen, population, selection criteria, sample size, Ultrasound criteria.

In our study 36 patients requiring check curettage after Misoprostol treatment. None of them had any complication which could be explained by cervical priming effect of misoprost allowing early surgically assessed to uterine cavity.

The patient having complete abortion had cost effective benefit, where as surgical evacuation cost 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, chief, 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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