

Tablet Misoprostol In Combination With Transcervical Foley's Catheter For Termination Of Second Trimester Pregnancy With Previous Caesarean Section

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Abstract

Introduction – Termination of second trimester pregnancy is a challenge to obstetricians due to its difficulty and risks especially in patients with prior caesarean sections.

Aim - to determine the efficacy of misoprostol in combination with transcervical foley's for termination of second trimester pregnancy in patients with prior caesarean sections.

Material and Methods - A prospective study was carried out on 76 antenatal patients for termination of second trimester pregnancy with prior caesarean sections presenting in the Obstetrics and Gynaecology Department of S.M.S. Medical College, Jaipur from June 2021 to May 2022. Outcome was determined by expulsion of fetus and placenta, interval between induction and abortion, side effects, requirement for surgical interventions and complications etc.

Results- Success rate was 90.78%, i.e. 69 out of 76 patients had complete expulsion of fetus and placenta. Incidence of incomplete abortion was 2.6% i.e. 2 out of 76 patients. 5 out of 76 patients i.e. 6.5% patients underwent surgical interventions. 38 out of 76 (50%) patients aborted between 12-24 hours.

Conclusion- Practice of inserting transcervical foley's catheter with intravaginal misoprostol for termination of mid trimester pregnancy with previous scarred uterus is safe, efficient and inexpensive procedure.

Keywords: mid-trimester, pregnancy, termination, caesarean section, tablet misoprostol, foley's catheter

Introduction

Worldwide, 10-15% of all induced abortions occurs in second trimester of pregnancy but comprises a major proportion of all major abortion related complications [1]. There is a gradual rise in second trimester abortion because of increased awareness, easy availability of healthcare and ultrasound services & wide scale introduction of prenatal screening programs detecting congenital anomalies in fetus, e.g. neural defects, cardiovascular and skeletal anomalies [2]. Prenatal screening is a boon for parents with a previously affected baby.

Numerous methods are available for termination of second trimester pregnancy especially with unfavorable cervix. They were categorized as pharmacological, mechanical and surgical methods. Prostaglandins and trans-cervical insertion of Foley's catheter are example of those methods [3].

With the increasing trends of caesarean section, obstetricians now face the problem to tackle termination of pregnancy in scarred uterus. This challenge further increases if it is mid trimester abortion with previous caesarean section.

Misoprostol is a famous synthetic prostaglandin (PGE1), originally used to inhibit peptic ulcer. Transvaginal or sublingual misoprostol is used for induction of labour. It is available in tablet form, is cheap, stable at room temperature and cost effective.

Transcervical insertion of Foley's catheter is used to induce labour in patients with an unfavourable cervix. It acts by both mechanical dilatation of cervix and encouraging release of endogenous prostaglandins and its outcome is improved by traction on the inserted catheter.

Induction of abortion in patients with previous caesarean section has a greater risk of rupture uterus. It should be decided after comprehensive counselling of patient [4].

Aim & Objectives

To determine the safety & efficacy of misoprostol in combination with transcervical Foley's for termination of second trimester pregnancy in patients with previous caesarean sections.

Material And Methods

This prospective observational study was conducted in the Department of Obstetrics and Gynaecology at S.M.S. Medical College, Jaipur in the period between June 2021 and May 2022.

76 antenatal patients giving consent with singleton pregnancy needing mid trimester abortion between 14 -24 weeks with history of previous 1 or 2 caesarean were enrolled.

Inclusion Criteria:

1. Singleton pregnancy
2. 14-24 gestational weeks
3. History of previous 1 or 2 caesarean sections
4. Indication of termination covered under MTP act

Exclusion Criteria:

1. Patients with more than 2 caesarean sections
2. Multiple pregnancy
3. Low lying placenta
4. Stenosed os
5. Haemoglobin level <10.5g/dl

An informed verbal and written consent was taken from all patients after full clarification about the nature of the trial, advantages and probable complications. Enrolled patients underwent thorough history taking, clinical examination, and obstetric ultrasonography to confirm gestational age, congenital malformation and placental localization.

Under all aseptic conditions, with the patient lying in the lithotomy position, the cervix was assessed and Foley's catheter 14-16 FrCh was inserted into the endocervical canal beyond internal os and balloon was inflated with 50 cc normal saline. A glove filled with normal saline around 200 cc was attached to the end of the Foley's catheter for traction. Patient received a standard regimen of moistened tab misoprostol 400 µg 4 hourly by intravaginal route until abortion or upto 48 hours.

The cases were closely monitored for maternal vital signs, the onset of contraction, induction to abortion interval, appearance of any side effects like vomiting, nausea, diarrhea, fever, severe abdominal pain. Failure of this method was considered if there were serious side effects or no delivery of fetus after 48 hours.

Efficacy in this study was defined as complete abortion within 48 hours with no need of any surgical interventions. Safety was assessed by comparing the prevalence of maternal complications.

Results

A total number of 76 patients fulfilling inclusion & exclusion criteria were included in the study who were admitted for second trimester abortion (14-24 weeks) with previous caesarean section to determine the safety and efficacy of intravaginal misoprostol in combination with trans cervical Foley's catheter.

Average age, parity, gestational age and body mass index of the patient was taken into consideration. Most common indication for termination of pregnancy was IUFD followed by congenital anomalies followed by PPRM. 69 patients out of 76 successfully aborted completely, i.e. success rate was 90.78%. Method failure was seen 9.2 %, i.e. 7 out of 76 patients. 2 patients had to undergo additional procedures like dilatation and evacuation. 5 patients underwent surgical interventions. 38 out of 76, i.e. 50% of the patients had an induction to abortion interval of 12-24 hrs. Most common complication

seen was fever, 13 out of 76 patients. Excessive bleeding was seen in 1 patient for which hysterotomy was done.

Table-1:- Maternal Characteristics

Age		Parity		Gestational Age	
Age group	Total patients=76	No previous section	of C- Total patients=76	Gestational age	Total patients=76
20-25	22			14-16 weeks	20
25-30	33	Prev. 1	56	17-20 weeks	48
30-35	21	Prev.2	20	21-24 weeks	6

Table-2:- Indication for Mid-trimester Abortions

Indication	Total no of patients=76
Intrauterine death	37
Congenital anomalies	35
PPROM	4

Table-3:- Outcome

Outcome	Total no of patients=76
Complete abortion	69
Incomplete abortion (required evacuation)	02
Hysterotomy	05

Table-4:- Total dose of misoprostol required and induction to abortion interval

Total Doses of Misoprostol (µg)	Total no of patients=76	Time interval	Total no of patients=76
400	13	0-12 hrs	17
600	27	12-24 hrs	38
800	21	24-36 hrs	13
1000	07	36-48 hrs	08
1200	08		

Table-5:- Maternal Complications

Complications	Total no of patients=76

Cervical laceration	2
Fever	13
Excessive bleeding	1
Diarrhoea	5
Nausea & vomiting	3

Discussion

Worldwide rate of termination of pregnancy has increased due to better availability of prenatal diagnostic tests which detects congenital malformations at an early stage and detection of early fetal demise due to good antenatal services [4].

As the trend of caesarean section has increased, obstetrician now faces the difficulty of induction in a scarred uterus. This becomes more and more challenging as the number of previous caesarean increases [5]. Vaginal birth after caesarean has 0.4% risk of scar rupture but this can increase if labour is induced with prostaglandin and oxytocin [6]. Termination of second trimester pregnancy can be difficult due to an unfavourable cervix.

Therefore, the decision to attempt pregnancy termination in second trimester in cases with previous uterine scar should be made on a case by case basis, after consideration of the number of previous caesarean sections and gestational age and careful labour monitoring of these patients.

In our study, we used misoprostol in combination with transcervical Foley's catheter. The overall success rate in our study was 90.78%. The results were agreed with those of Hend S Salah [7] study 2020 in which success rate was 95% in patients in whom combination of misoprostol and intracervical Foley's was used. They compared the efficacy of sublingual misoprostol with intracervical Foley's catheter.

The results also agreed with Mohamed Rezk 2018 [8] study. The study was conducted on 200 patients with a success rate of 96% in the combined group. The induction to abortion interval in the combined group was 8.16 ± 1.52 hours while in our study most of the patients 50% patients aborted in the time interval of 12-24 hours. Similar induction to delivery interval was noted by Shabana A et al, a study conducted in

Egypt in which the induction to delivery interval was noted to be 15.6 ± 5.4 hours [9].

Another study in Turkey [10] reported 81.7% success rate with four doses of misoprostol 200ug vaginally every 6 hours with 3 uterine rupture out of 26 patients.

The use of transcervical Foley's catheter may act in addition to its mechanical effect by increasing release of prostaglandin and/or oxytocin released secondary to localized inflammation [11].

Conclusion

The combination of misoprostol with transcervical Foley's catheter insertion is a safe and reliable method for termination of mid trimester pregnancy in patients with previous caesarean section.

Ethical standards- All procedures performed in studies involving human participants were in accordance with ethical standards of International committee and with the Helsinki Declaration of 1964 and its later amendments or comparable ethical standards. This article does not contain any studies with animals performed by any of the authors.

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