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Original Research Article

Management of second trimester abortion beyond 20 weeks in a tertiary care setting

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ABSTRACT

Background: Management of second-trimester abortion beyond 20 weeks is still unclear. To analyse the management of second-trimester abortions in a tertiary care setting.
Methods: A retrospective analysis was carried out over 1 year for the women undergoing 2nd trimester abortion after 20 weeks. The primary outcome was to find out the various regimens used for 2nd-trimester abortion. The secondary outcomes were the number of doses of drug required for completion of the abortion process, complications and side effects associated with the same. Other outcomes like the cause of abortion requirement beyond 20 weeks and the demographic profile of women have been noted. A review of literature was carried out on the management of 2nd trimester abortion beyond 20 weeks.
Results: A total of 57 medical termination of pregnancy (MTP) were carried out. Mifepristone followed by misoprostol was the method of choice in 93% of cases. Other methods adopted were foleys induction, mifepristone alone. The mean number of misoprostol doses used in termination between 20-24 weeks were 3-4 (400 mcg), While it was 4-5 doses (200mcg) beyond 24 weeks of gestation. Hysterotomy and hysterectomy were done as a result of complication arising out of the regimen followed in less than 1 % of cases.
Conclusions: The combination of 200 mg mifepristone and vaginally administered misoprostol is a safe, effective and non-invasive regimen for termination of pregnancy even beyond 20 weeks.

Keywords: Mid trimester abortion, Medical termination of pregnancy, Second trimester abortion

INTRODUCTION

Second -trimester abortion/ mid-trimester abortion term is used for termination of pregnancy between 13-28 weeks period of gestation. With progressive advancements in pre-natal screening techniques, genetic counselling and multidisciplinary approach in managing pregnancies with complications, there is a gradual increase in the number of mid- trimester abortions due to better pre-natal screening modalities.[1]

Indian MTP law medical termination of pregnancy (amendment bill, 2021) permitted abortion from 20 weeks to till 24 weeks by two registered medical practitioners provided all the pre-requisites are fulfilled and beyond that it could only be performed only after permission by the medical board.[2]

Prostaglandins (PGE1, PGE2) are frequently used for mid-trimester pregnancy termination. When prostaglandins PGE1 (misoprostol) are used alone for second-trimester abortion, the mean induction to abortion interval can be as long as 12- 16 hours pretreatment with anti-progesterone (mifepristone) softens the cervix, increases the sensitivity to prostaglandins and thus converts the quiet pregnant uterus into an organ of spontaneous activity leading to a

reduction in induction-abortion interval (IAI), the total dose of prostaglandins and analgesics requirement.[3-6] Mifepristone followed by intravaginal misoprostol for second-trimester abortion is a safe and effective method with a higher success rate and shorter foetal delivery interval compared to misoprostol alone.[7]

There are multiple studies on termination of pregnancy till 20 weeks but studies on gestation more than 20 weeks are lacking. Hence the present study was aimed to assess the regimen followed for mid-trimester abortion >20 weeks in a tertiary care setup, to observe the course and outcome of abortion using the above protocol and to study any side effects of the above regimen.

METHODS

Study place

This retrospective observational study was done in a tertiary care teaching hospital (Maulana Azad Medical College Delhi Associated LNJP Hospital Delhi.

A total of 57 women, who presented to us for termination of pregnancy at >20 weeks of period of gestation due to various reasons were included in the study over 1 year (July 22 June 2023).

They were explained about the procedure of MTP and written consent was taken explaining the procedure's risks, complications and success rate. Statistical analysis was done using SPSS version 18.

All patients seeking MTP for various reasons over 20 weeks of gestation and fulfilling all the prerequisites of the MTP Act were included in the study. Previous caesarean section was also included in the study.

Women not fulfilling the pre-requisites of the MTP act or those with less than 20 weeks of period of gestation or any known hypersensitivity to mifepristone or misoprostol or those who had already taken MTP pill from outside or on their own were excluded from the study.

After admission checking the baseline investigations and consent, tab Mifepristone 200 mg was administered orally under supervision, following this after 48 hours tab misoprostol 400 mcg till 24 weeks, 200 mcg between 24-28 weeks, >28 weeks 100 mcg p/v, s/l, buccal every 3 hourly for max 5 doses as per FIGO regimen.[4]

Patients were allowed to be ambulatory according to their wish, sterile vulval pads were given which were examined at regular intervals to assess the amount of blood loss and for expulsion of the foetus and placenta. The placenta was examined to confirm its totality.

In cases with incomplete abortion, manual removal of placenta followed by check curettage was performed. Need for blood transfusion due to excessive blood loss. Failure of procedure was defined as expulsion occurring after 48 hours following the first dose of misoprostol, need for dilatation & evacuation and need for manual removal of the placenta under anaesthesia.

Outcome

Primary

Rate of complete abortion

Complete expulsion of foetus and placenta occurring within the stipulated period i.e. 48 hours following the first dose of misoprostol.

Induction to delivery interval

From 1st dose of misoprostol to delivery of fetus and placenta expulsion. Misoprostol doses needed for termination.

Secondary

Complications like excessive bleeding, need for transfusion. Need of surgical intervention hysterotomy/ hysterectomy. Analgesics requirement. Duration of hospital stay.

RESULTS

A total of 57 women underwent mid-trimester pregnancy termination during the study period, 43.85% patient was primigravida, 89.47 patient was in 20-24 weeks period of gestation (Table 1).

Main indication for termination of pregnancy was congenital anomalies out of this max 28% patients came with multiple anomalies in foetus followed by 24.6% with neural tube defects (Table 2).

Out of 57 only 1 patient aborted with mifepristone, 93% patient aborted successfully with mifepristone followed by misoprost. In 1 case hysterotomy was done as failed medical management in 1 case hysterectomy was done as rupture uterus (previous 2 LSCS) during misoprost induction, in 2 case other methods also used as failed medical management (Table 3).

For successful abortion age dose of misoprostol required is around 1400 mcg, 3-4 doses as per FIGO regimen, max patient (18) deliver between 17-24 hours interval from induction (Table 4).

21% patients required analgesics, 18 % cases required D&C post expulsion, hysterotomy required in 1 case, hysterectomy needed in 1 case as rupture uterus, in 2 cases foley's induction followed by oxytocin augmentation as medical management failed (Table 5). In 36.8 % cases Baby weight was >500 gm.

Table 1: Demographic details.

Parameter	Number	%
Age (in years)		
<20	6	10.52
21-30	41	71.92
31-40	8	14.03
>40	2	3.51
Parity		
0	25	43.85
1	18	31.57
2	11	19.29
>2	3	5.26
Period of gestation (weeks)		
20-24	51	89.47
>24	6	10.52
Previous LSCS		
1	3	5.26
2	2	3.51
>2		
Marital status		
Married	55	96.49
Unmarried	2	3.51

Table 2: Indications for MTP.

Indication	Number	%
1)Gross congenital anomalies		
Neural tube defects	14	24.56
Cardiac lesions	5	8.77
Renal anomalies	3	5.26
Multiple GCA	16	28.07
Diaphragmatic hernia	2	3.51
Gastro-intestinal anomalies	3	5.26
Osteogenesis imperfecta	1	1.75
GCA not yet defined	9	15.7
Not willing to continue	1	
Trisomy 21 high risk in amniocentesis	1	1.75
History of sexual assault	2	3.51

Table 3: MTP details.

Details	No. of cases	%
Mifepristone alone	1	1.75
Mifepristone f/b misoprostol		93
Doses of miso		
1	0	
2	9	
3	12	
4	10	
5	18	
Miso doses repeated twice after 24-48 hours rest	4 (7,8,9,9 total miso doses including previous 5 doses)	
Failed mife f/b miso so followed by foleys induction	1	1.75
Hysterotomy as failed by medical method (mife + miso f/b foleys induction) case of previous 2 LSCS	1	1.75

Continued.

Details	No. of cases	%
Hysterectomy as rupture uterus after 3 doses of miso (previous 1 lscs)	1	1.75

Table 4: MTP outcome.

Details		Range
Total dose of misoprost required (43 cases) upto 24 weeks	1469 mcg (3-4 doses 400 mcg)	0-2000 mcg dose of misoprostol
24-28 weeks (6 cases)	866.6 mcg (4-5 doses 200 mcg)	
	Average 1395 mcg (irrespective of POG)	
Number of doses required (irrespective of POG) 49 cases (excluding cases interval miso given)	3.75	0-5 doses
Induction- abortion interval (1st dose of miso to delivery)		
0-4 hours	0	
4-8 hours	9	
9-12 hours	12	
12-16 hours	10	
17-24 hours	18	
>24 Hours (>5 doses of miso)	4	
Abortion with mifepristone alone	1	
Hysterotomy	1	
Hysterectomy	1	
Foleys induction f/b synto (Failed medical method)	1	

Table 5: Complications related to MTP.

	Number	%
Need for D&C	8	18.6
Manual removal of placenta	0	
Failed medical management	2 (1 hysterotomy, 1 foleys induction)	
Blood transfusion	2	
Rupture of uterus	1	1.75
Fever	8	18.6
Diarrhoea	0	
Need of analgesics	12 (nulli 7)	21 (58% nullipara)

Table 6: Foetal outcome.

Baby details	Outcome
Baby weight (<500 gm)	36 (63.1%)
Baby weight (>500 gm)	21 (36.8)

DISCUSSION

Mid-trimester MTP is a condition which required long time for complete expulsion and also have an associated higher morbidity and mortality as compared to first-trimester termination of pregnancy.[7] However, these abortions are carried out due to more women presenting with second trimester anomaly scans which are carried out around 18-20 weeks, some with genetic diagnosis of baby carrying aneuploidies after invasive procedures and some presenting with a pregnancy resulting from sexual assault.

The United States reported approximately 1.3% of abortions take place after 20 weeks' gestation every year.[8] This data is higher in developing countries like India because of the existing malpractice of illegal unsafe abortions going on for sex selection despite strict laws, rules and regulations.[9] According to WHO, unsafe abortions are quite common in countries with stringent laws. Keeping all these things in view, the Indian

government passed an amendment bill regarding MTP law.[2] There is a huge need to study these terminations beyond 20 weeks and their complications. In earlier days, surgical methods were commonly used but nowadays with the emergence of medical methods for pregnancy termination consisting of prostaglandins alone or in combination with anti-progesterone has made abortion safe and affordable. Many studies in the literature have used different dosage schedules of the combination of mifepristone and Misoprostol for 2nd trimester MTP up to 20 weeks.[10]

However, the optimal method of second-trimester abortion continues to be debated. In our study, we retrospectively analysed the termination methods in gestation age beyond 20 weeks done in a tertiary care centre. Just like with other studies, in our study also the same protocol of 200 mg mifepristone followed by vaginal Misoprostol was used as per FIGO. Treatment with mifepristone softens the cervix and increases the sensitivity of uterus to prostaglandins.

The maximum effect on uterine contractility and cervical ripening is seen after 36-48 hours, showing a higher success rate and reduced induction to abortion interval and the need for a lesser dose of misoprostol when mifepristone is added to misoprostol.[11-13] It has been seen that vaginal route of administration for misoprostol is safer and more effective than oral route with less side-effects due to better bio-availability of the drug at target site.[13-15] The mean total no of dose of misoprostol required in the present study was 3-4 doses (3.75) in other studies 3 doses.[3,12,13]

The mean total dose of misoprostol required in the present study was 1400 mcg (0-2400 mcg). Other studies reported in literature show dosage requirements varying from nil to 2200mcg.[16,17] The majority (85.96%) of our patients had complete expulsion of foetus and placenta within 48 hours. A few (18.6 %) required either dilatation and curettage for retained products. In our studies success rate of this regimen was 92.9%, while different studies have shown success rates varying from 73%-97% with the combination of mifepristone followed by vaginal misoprostol.[11-13] Around three fourth (70%) cases were expelled within 12-24 hours of initiating induction with misoprostol which is comparable to other studies.[13,14]

Mifepristone alone could lead to expulsion; this was seen in one of our patients (1.75%) aborted completely with mifepristone alone and thus did not require misoprostol at all. In study by Aggarwal N et al, 2.5% of patients aborted with mifepristone alone whereas other studies have reported 0.2%-0.5% incidence of complete abortion with only mifepristone.[11,17,18]

Scar rupture is one of the deadliest complications one can have while inducing an abortion with misoprostol in a scarred uterus. In our study, 5 cases were with previous history of caesarean section, 3 were previous 1 LSCS and 2 were previous 2 LSCS. One patient with previous surgery had scar rupture and hence was taken for laparotomy and hysterectomy, packed cell volume was transfused intraoperatively.

One of the cases was taken for hysterotomy after failed medical management followed by foleys induction and augmentation with oxytocin. One patient was delivered after foleys induction followed by augmentation with oxytocin as failed medical management. Various case reports show uterine rupture in previously scarred uterus undergoing mid-trimester pregnancy termination.[19,20] However good safety of mifepristone and misoprostol for mid-trimester MTP in cases of previous caesarean section has been shown in various studies.[21,22]

Minor side effects like fever, shivering were seen in a few cases of medical management with misoprostol use, which were managed conservatively. The majority of our cases didn't require any analgesics. 12 women required injectable analgesics majority of them were nullipara, literature also shows similar finding with nulliparous women requiring more analgesics which can be due to their low threshold for pain.[14]

Limitation of study was that smaller sample size. Other methods of termination of pregnancy was not compared in this study.

CONCLUSION

Medical termination of pregnancy beyond 20 weeks can be safely managed with Mifepristone followed by misoprostol. This combination can be used in previous scarred uterus under monitoring. As complications have been seen at this gestation hence it must be carried out in a setup with an operation theatre and blood bank.

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Ethical approval: The study was approved by the Institutional Ethics Committee

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