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Original Research Article

Evaluation of second trimester abortion methods in a tertiary care centre

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ABSTRACT

Background: Wishful termination of pregnancy is among the many rights of women's health care and while the rate of abortions is much more in the first trimester, morbidity and complications increases as the pregnancy advances are much more in the second trimester. We assessed the various methods of second trimester abortion available in a tertiary care centre while evaluating the efficacy and safety profile of these methods.
Methods: We conducted a retrospective cohort study in 50 patients of age group 16-36-year admitted for spontaneous abortion or medical termination of pregnancy (MTP). Demographics, gestational age, parity and indication for abortion was evaluated and appropriate method offered. Induction abortion interval and various complications were noted and managed appropriately.
Results: Fifty patients of age group 16-36-year were included in this study. Majority of them were married and multiparous and presented early in second trimester between 12-16 weeks of gestation. Spontaneous abortion was seen in 14 cases and 9 cases had fetal anomalies requiring abortion. We found the mean abortion induction interval to be 15 hours and 8 min and the most common complication was fever seen in 12% of the patients.
Conclusions: Safe abortion services, particularly in second trimester should be made available to every women and improved policies and monitored services should be rendered for the same to decrease morbidity and mortality associated with it and give overall better outcome for the patient.

Keywords: Pregnancy, Abortion, Gestational age, Morbidity, Female

INTRODUCTION

Throughout the world about 210 million pregnancies occur each year of which 46 million ends in abortion majority of them in developing counties.[1] In India alone, 6.7 million induced abortions occur annually, of which late abortions constitute 10.7 to 15%.[2] Although most of the abortions are performed in first trimester, 10-15% of them take place in the second trimester because of delayed diagnosis of fetal anomalies and failure to recognize an undesired pregnancy due to fewer pregnancy-related symptoms.[3-5]

Pregnancies terminated after 13 weeks of gestation disproportionately contribute to maternal morbidity with two-thirds of major abortion related complications and half of abortion related mortalities contributing approximately 13% of global deaths especially in resource limited countries where safe access to abortion is limited.[6,7]

The ideal regimen for termination of pregnancy should have a short induction abortion interval (I-A-I), be free of any side effects, highly acceptable, easy to perform and cost-effective.

Surgical abortion

Termination of pregnancy in second trimester can be done by dilation and evacuation (D&E), or an induction termination.

The most prevalent method of terminating pregnancy in second trimester is dilation and evacuation (D&E) due to lower rates of haemorrhage and infection as compared to other methods.[8]

Dilation and evacuation has proved to be safe and effective as compared to other surgical methods like instillation of urea and hypertonic saline or medical agents, such as oxytocin, prostaglandin (PG) F_2.[9-13]

The procedure is preceded by 1-2 days of cervical preparation with osmotic dilators and chemical ripening agents like gemeprost, meteneprost, PG F_2, and PG E_2 suppositories.[14-16] Misoprostol, a synthetic PG E_1 analogue can be used as a sole ripening agent or as an adjunct to traditional mechanical and osmotic dilation.

It can be performed as a simple outpatient procedure in 30 minutes and patients can return to work the day after which decreases the overall financial burden and makes it more predictable and acceptable.

Induction termination is done in labor and delivery units, require more time, and offer more contact with the fetus.[17]

Medical abortion

Hypertonic saline was used extensively as an intraamniotic induction termination agent earlier but now avoided due to development of hypernatremia, coagulopathy, and massive haemorrhage.[18] It is also associated with longer induction times and higher rates of both blood transfusion and retained placenta.[19]

Hyperosmolar regimens are supplemented by medical induction agents to promote contractions and delivery of product of conception.

Prostaglandin analogues such as carboprost, sulprostone, gemeprost, and misoprostol have revolutionised medical abortion. Among these carboprost (PGF_2 analogue) is tolerated better than E analogues.[20]

Gemeprost and misoprostol (E_1 analogues) are the most commonly used. They induce labor more effectively with less side effects than intraamniotic PGF_2 and extra amniotic PGE_2.[21-23]

Misoprostol is more efficacious than PG analogues due to reduced need for narcotic analgesia and surgical evacuation of the uterus, being effective in initiating uterine contractions and cervical ripening at any gestational age (unlike agents such as oxytocin), thermostability, wide availability, tolerability, and being inexpensive.[24-26]

Oxytocin is not used as a single-agent therapy as it requires longer induction times and more side effects like water intoxication.[27]

Use of PGE_1 analogues along with mifepristone offers the safest and most expeditious method to induce abortion in the second trimester.

Mifepristone is an anti-progestin that blocks both progesterone and glucocorticoid receptors competitively. It causes cervical dilation, endometrial necrosis, increased endogenous PG production, and increase uterine sensitivity to exogenously administered PG.

Oral mifepristone 200 mg followed 24-36 hours later by intravaginal prostaglandins (800 mcg intravaginally followed by 400 mcg orally or intravaginally at 3-hourly intervals up to a maximum of 4 doses) has shown a 97% successful abortion rate.[28]

We aim to describe the various methods for inducing second trimester abortions and analyse the efficacy and safety profile of these methods.

METHODS

This retrospective observational study was conducted on 50 patients who underwent second trimester abortion between the gestation age of 12-28 weeks during January 2024–July 2024 in the Department of Obstetrics and Gynaecology of S.M.S medical college and hospital, Jaipur after taking approval from ethical committee from the institute.

We collected demographic data along with parity, history of previous terminations, surgeries, contraceptive history, gestational age at termination, co morbidities and complications.

The various surgical and medical methods of abortion were noted along with dosage, frequency, induction to delivery time and delivery to placental delivery time, requirement of manual removal of the placenta and other surgical interventions like need for hysterotomy was noted in view of failed techniques.

Inclusion criteria

Patients admitted between 12 weeks of gestation and 28 weeks of gestation for either spontaneous or induced abortion were included.

Exclusion criteria

Patients having loss of product of conception before 12 weeks of gestation, multiple pregnancies, inevitable

abortions, and patients who did not gave consent were excluded.

Statistical analysis

Statistical analysis of data was done and represented in form of proper tables and charts.

RESULTS

Fifty patients were included in this study, maximum number of patients were from the age group 18-22 years, the mean age being 23.44 years (range 16-36) as indicated by Table 1.

Most of the patients were multiparous (66%) and married (90%) and majority of them underwent termination early between 12-15 weeks + 6 days (36%) followed by 16-19 weeks + 6 days (24%) as indicated in Table 1.

Table 1: Patient characteristics.

Variables	Number of patients (n=50)	%
Age (years)	Mean-23.44	
<18	6	12
18-22	20	40
23-27	12	24
28-32	8	16
>32	4	8
Gestational age		
12-15 weeks + 6 days	18	36
16-19 weeks + 6 days	12	24
20-23 weeks + 6 days	11	22
24-27 weeks + 6 days	6	12
25-27 weeks + 6 days	3	6
Parity		
Primiparous	17	34
Multiparous	33	66
Marital status		
Unmarried	5	10
Non-consanguineous marriage	34	68
2nd degree consanguinity marriage	3	6
3rd degree consanguinity marriage	8	16

The various reasons of termination of pregnancy in represented in Figure 1 with the most common cause being spontaneous abortion (29%) followed by fetal anomalies (19%).

The most common method used was medical methods (46%) with either mifepristone combined with misoprostol or misoprostol alone. Among the 14 cases of spontaneous abortion 10 didn't needed any further intervention and 1 case of molar pregnancy needed hysterectomy as represented in Table 2.

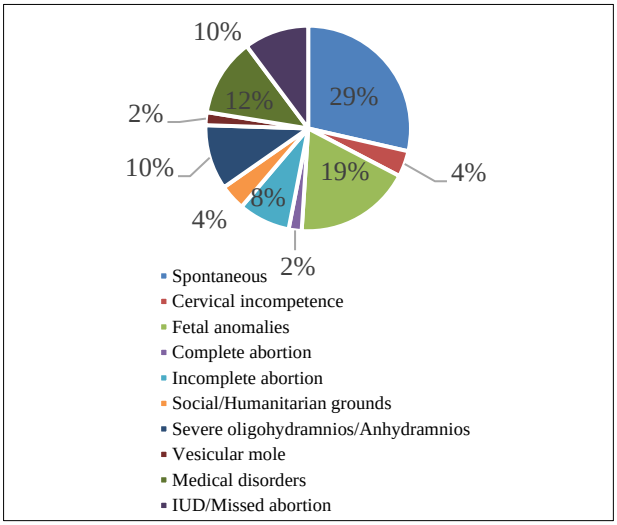

Figure 1: Indications of MTP.

Table 2: Method of induction of abortion.

Method	Number of patients (%)
D&E	9 (16)
Induction termination	2 (4)
Spontaneous	10 (28)
Medical abortion	23 (46)
Combined medical + mechanical method	5 (10)
Hysterectomy	1 (2)

The induction-abortion interval either after pain onset in spontaneous cases or after taking first dose of misoprostol is represented in Table 3. The mean induction-abortion interval in this study is 15 hours and 8 minutes. The minimum time was 2 hour and 10 minutes and the maximum interval was 54 hours in the study.

Table 3: Induction abortion interval of second-trimester abortion.

Variables	Number of patients (n=50)	Percentage
Induction-abortion interval (hours)	Mean interval-15 hours 8 min	
0-6	15	(30)
6-12	9	(18)
12-18	11	(22)
18-24	6	(12)
24-30	3	(6)
30-36	2	(4)
36-42	2	(4)
42-48	1	(2)
>48	1	(2)

Various complications encountered are listed in the Table 4. Most of the patients didn't have any complications but majority of them prevented with fever (12%) and 8% patients each had some haemorrhage and retained products which was managed.

One patient needed laparotomy and repair of uterine perforation due to multiparity and friability of uterus. There was no mortality seen in the study and all patients were discharged to home.

Table 4: Complications during termination.

Complications	Number of patients (%)
Primary haemorrhage	4 (8)
Fever	6 (12)
Adherent placenta	2 (4)
Uterine perforation	1 (2)
Retained product of conception	4 (8)
Exploratory laparotomy	1 (2)
Hysterectomy	1 (2)
Death	0

DISCUSSION

In this retrospective observational study of 50 cases consisting, we found the maximum number of 2nd trimester abortions were done between age of 18-22 years with majority of them being multiparous. Although in India, studies on second-trimester miscarriage is few but second trimester abortions are common in India with much more mortality as compared to first trimester.[29]

Our study revealed that the greatest number of patients undergoing abortions were between the gestational age of 12-16 weeks. This is comparable to the study one by Lakshmi et al, where 60% of the patients belonged to 12-16 weeks of gestational age.[30]

Delay of termination to 2nd trimester can also be attributed to failure of recognition of fetal anomalies in the 1st trimester due to need of radiological investigations or any intervention for antecedent diagnosis and increase the incidence of second trimester abortions in India. In our study maximum number of abortions were spontaneous contrary to observation in study done by Shantikumar et al.[31]

Some of the maternal health conditions occur late in the pregnancy and may be the reason for abortion. Patients in second trimester were less certain of their LMP causing the delay. Finer et al reported similar findings of the reasons for delay in accessing abortion services.[32]

The most common method used was medical method in 46% of cases with mifepristone induction followed by misoprostol or misoprostol alone. Similar results were seen in study conducted by Lalitkumar et al.[33]

A study done by Grimes et al comparing D&E with medical induction; D&E was proved efficacious than medical induction.[34]

The mean induction-abortion interval time in our study was 15 hours 8 min which is contrary to the much less interval seen in studies by Ashok et al and Thong et al with interval being 5.9-6.6 hours.[35,36]

Among the complications, most common was fever (12%) followed by retained product of conception and haemorrhage with 4% each. These complications are also noted by study done by Ranjan et al.[37]

More studies are needed to evaluate and identify various options for managing second trimester abortions. The limitations of our study are largely attributable to the sample size and the single institutional nature of our study which is prone to selection bias.

CONCLUSION

Giving birth to a child is one of the amazing beauties of nature, but when unwanted or posing a risk to baby or the mother, she should have the right to terminate it and as healthcare workers we have the duty to provide safe termination without increasing the risks of loss of future pregnancies. The various methods of second trimester MTP was evaluated along with comparing demographic data, indications and complications. Improvised and monitored healthcare services along with nationwide policies for safe abortion are needed to increase the safety profile of second trimester abortion and simultaneously protecting against the quackery of sex determination for promoting overall better outcome of the patient, preserving women sexual and reproductive rights and for a better society.

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