



Comparison of standard MTP kit in first trimester missed abortion in scarred verses non scarred uterus- An experience of single tertiary care Centre

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Abstract

Aim and objectives: The aim of the present study was to assess the efficiency of the medical method in the scarred uterus and compare the success rate and complications of the medical regimen in the scarred and nonscarred uterus.

Material and methods: This prospective interventional study conducted at Pannadhay mahila chikitsalay Udaipur Rajasthan between May 2012 to April 2016. This study included 260 patients, 120 with history of the uterine surgery and 140 without history of the uterine scar. For termination of missed abortion MTP regimen was used consist of Tab Mifepristone 200 mg per oral 36 hours prior to 400 mcg Tab Misoprostol per vaginum followed by second dose 400 mcg of Misoprostol 12 hours after the first dose of Misoprostol per oral. MTP regimen was given on OPD basis, and patients were called for follow up after one week of starting the Tab Mefipristone. Outcome was categorized as complete, incomplete and failure of abortion on the basis of clinical findings.

Results: A total 260 recruited patients were divided into scarred uterus (120 patients) and non scarred uterus patients (160). The age and socioeconomic status characteristics of all recruited patients were not statistically differ between these two groups. On the basis of Obstetrics and surgical details, patients with scarred and nonscarred uterus were subdivided into 7 and 4 subcategories respectively. Patients were also distributed into 4 groups of the gestational age according to the USG findings of missed abortion in scarred and nonscarred uterus patients. Initially we have prescribed the medical regime in all recruited patients. The outcome of the medical regimen was subdivided into complete, incomplete and failure. In non scarred uterus patients, out of 140 patients, 126 patients (90.0%) complete 11 patients (~7.8%) incomplete and 3 patients (~2.2%) failure missed abortion to medical regimen. In scarred uterus patients, out of 120 patients, 47 patients (39.2%) complete, 43 patients (~35.8%) incomplete and 30 patients (~25.0%) failure missed abortion to medical regimen. We found that relatively higher numbers of the patient were noted in the incomplete and failure part of the medical regimen outcome in the scarred uterus category which was statistically significant. We found there were some relatively major complications were observed in the scarred uterus patients however no such fatal damage of the patients is noted.

Conclusion: We concluded that medical regime should be initial approach for scarred as well as non scarred missed abortion patients but we should be ready for alternative surgical approach in scarred uterine patients. The complication in the patients with missed abortion and having the scarred uterus are posing to relatively more complications.

Keywords: gestational, relatively, Pannadhay

Introduction

Termination of pregnancy is one of the common practices in obstetrics & gynaecological department. Termination of pregnancy in India is legalized under the MTP act since 1971 [1]. Variety of methods is available for termination of missed abortion. It constitutes both surgical and medical intervention. The use of medical method of abortion to terminate the early pregnancy has evolved greatly. Various studies have been conducted to observe the efficacy of medication abortion as well as route and dosage of medication [2]. And clinical studies have demonstrated that use of standard MTP regimen containing Mefipristone 200 mg followed by Misoprostol 800 mcg in two divided doses at an interval of 12 hours is not only safe but effective also for non scarred uterus [3,4]. It is widely accepted by patients. The literature describe the success rate of standard medical management in term of complete abortion is 87-96% at

up to 49 days of gestation in unscarred uterus [4,5].

The rate of caesarean section is increasing worldwide and increased rate of caesarean section has again become fortunate or unfortunate for both patient and obstetrician [6]. Termination of missed abortion in a patient having history of previous uterine surgery has become a difficult task for obstetrician [7]. Repetitive D&Es for missed abortion for a patient is a big psychological trauma rather than physical trauma. The women with a previous caesarean section are the risk of uterine rupture is becoming higher [7,8].

In the ultrasound imaging, if any suspicion of a non- viable pregnancy mostly relies on the measurements of the CRL and gestational sac to make the diagnosis [9,10]. The current guidelines state that:

- If the crown rump length (CRL) is > 6 mm and there is no

embryonic cardiac activity, this is defined as a missed miscarriage, or

- If the mean gestational sac diameter is > 20 mm and there is no yolk sac or embryonic pole, this is defined as an empty sac miscarriage, or
- If at the follow up scan after at least one week, there is still no embryonic cardiac activity or the gestational sac remains empty, then a diagnosis of non- viability can be made.

There are few studies in then published literature which addressed the success rate and complications of the medical methods in the patients with scarred uterus. The results and conclusion of these studies were uneven with each other [11-25]. So we want to prospectively compare the standard MTP regime in patients with scarred and nonscarred uterus.

So aim of the present study was to assess the efficiency of the medical method in the scarred uterus and compare the success rate and complications of the medical regimen in the scarred and nonscarred uterus.

Material and method

Our study was a prospective interventional study conducted at Pannadhay mahila chikitsalay, Rabindra Nath Tagore Medical College, Udaipur Rajasthan from May 2012 to April 2016.

Criteria for patient selection

- Patient willing for termination of missed abortion attended at Pannadhay Mahila Chikitsalay, Udaipur, Rajasthan
- Period of gestation was calculated by first day of last menstrual period,
- Pelvic USG was done to confirm the missed abortion and period of gestation,
- Informed and written consent was obtained from all patients.

Inclusion criteria

- Patient willing for medical management,
- First trimester missed abortion irrespective of maternal age parity and socioeconomic status.
- No contraindication for medical management eg. not having allergy to misoprostol.
- Haemoglobin 9 Gm% or more

Exclusion Criteria

- Gestational age more than 12 weeks,
- Patient not willing for medical management
- Patient allergic to Misoprostol
- Haemoglobin less than 9 Gm%
- Known case of cardio respiratory illness,
- Known case of any bleeding disorder,

For this study two groups were formed, one group was of having history of previous uterine surgery eg. Previous Lower segment caesarean section, Hysteroscopic Myomectomy, Dilatation and Curettage for any reason Laparoscopic Myomectomy. This group consists of 120 patients.

Second group was of not having any kind previous uterine surgery, primigravida patients and patients with previously one normal delivery. This group consist of 140 patients.

For termination of missed abortion MTP regimen was used

consist of Tab Mifepristone 200 mg per oral 36 hours prior to 400 mcg Tab Misoprostol per vaginum followed by second dose 400 mcg of Misoprostol 12 hours after the first dose of Misoprostol per oral. MTP regimen was given on OPD basis, and patients were called for follow up after one week of starting the Tab Mefipristone.

All the patients were advised that normal routine activities can be performed, no need for any kind of bed rest, no need for any leave form work if they are working women. They were also explained that they have to report immediately to the emergency department if they feel severe abdominal pain, heavy bleeding per vaginum, or fainting attack in the follow-up period. Outcome was categorised as complete, incomplete and failure of abortion on the basis of clinical findings.

Statistical analysis

All enlisted patients were divided into two subgroups, scarred and nonscarred uterus. These patients are also subcategorized on basis of obstetrics history and previous uterine surgery. The complication and outcomes of the medical regimen were also noted down. The analysis between the two groups and continuous variables were summarized as mean & standard deviation, whereas nominal/categorical variables were summarized as proportions. Parametric tests [Student t test] were used for analysis of continuous variables while Chi-square was used for nominal/ categorical variables. ‘p’ value < 0.05 was considered as significant. IBM-SPSS version 22.0 software was used for all statistical analysis.

Observations and results

A total of 260 female patients with ultrasonographic diagnosis of missed abortion were included in the present study. The mean age of patients was 27.4 years (range of 20 to 45 years). On basis of the past surgical history, 260 recruited patients were divided into scarred uterus and non scarred uterus patients. The age and socioeconomic status characteristics of all recruited patients are given in table -1 and 2.

Table 1: Age distribution of patients

Age in years	Number of patients of non scarred uterus (% of patients)	Number of patients of scarred uterus (% of patients)	P value
20-30 Years	78 (55.7%)	65 (54.2%)	0.8487
31-40 Years	40 (28.6%)	34 (28.3%)	0.9774
>40 Years	22 (15.7%)	21 (17.5%)	0.8754

Table 2: Distribution of patients according to the socioeconomic status

Socioeconomic status	Number of patients of scarred uterus (% of patients)	Number of patients of non scarred uterus (% of patients)	pvalue
Lower	46 (38.3%)	45 (32.2%)	0.5382
Middle	54 (45.0%)	70 (50.0%)	0.5820
Higher	20 (16.7%)	25 (17.8%)	0.9237

We found there was no statistically significant defence in the age and socioeconomic status of the patients of both groups. All recruited patients were underwent detailed history and physical examination.

Obstetrics and surgical details of patients-

Out of 140 patients of non scarred uterus most of the patients

(42.85%) were Primigravida followed by previous one normal delivery (32.14%) and previous 2 normal deliveries (25%).

Table 3: Gravidity of patients in non scarred uterus

Gravidity of patients	Number of patients	% of patients
Primigravida	60	42.8%
Previous 1 normal delivery	45	32.2%
Previous 2 normal delivery	35	25.0%

Among the group of scarred uterus patients maximum patients were of previous one LSCS with 45% followed by previous 2

LSCS (21.66%), least number of patients consists of hysteroscopic myomectomy. As shown in table number 4.

Table 4: Type of surgery in scarred uterus

Type of surgery	Number of patients	% of patients
Previous 1 LSCS	54	45.0%
Previous 2 LSCS	26	21.7%
Hysteroscopic Myomectomy without h/o LSCS	3	2.5%
Lap. Myomectomy with no h/o LSCS	4	3.3%
Lap Myomectomy with h/o LSCS	6	5.0%
D&E with h/o LSCS	17	14.2%
D&E without h/o LSCS	10	8.3%

LSCS-Lower segment Caesarean section; D&E- dilation and evacuation

Ultrasonographic findings

After history and physical examination, patients underwent ultrasonographic examination routinely and on suspicion of a non- viable pregnancy. On the basis of the suspicious ultrasonographic findings of missed abortion, patients were divided in 4 groups as shown in table no 5.

In present study out of 120 patients of nonscarred uterus maximum patients consists of missed abortion between 6 to 8 weeks (45%), followed by 8to 10 weeks of gestations.

Table 5: Patient distributions according to the USG findings of missed abortion in scarred and nonscarred uterus

USG in Weeks	Number of patients of scarred uterus (% of patients)	Number of patients of non scarred uterus (% of patients)
Up to 6 weeks	6 (5%)	6 (4.28%)
6to 8 weeks	54 (45%)	64 (45.71%)
8to 10 weeks	46 (38.33%)	50 (35.71%)
>10 weeks	14 (11.66%)	20 (14.28%)

Gestational age distribution of missed abortion based on obstetric history and uterine surgery in scarred and non Scarred uterus

Initially we categorized the patients into scarred and non Scarred uterus. Then patients with the uterine scar were subdivided in seven categories founded on the obstetrics history and previous uterine surgery. And patients with non scarred uterus were subdivided in three categories on basis of obstetrics history. The patient distribution in these subcategories is shown in tabular form in table no 6 and 7.

Table 6: Distribution of gestational age in scarred uterus according to the type of obstetric history and uterine surgery.

Type of surgery	Number of patients	6 Weeks	6 to 8 Weeks	8 to 10 Weeks	10 to 12 Weeks
Previous 1 LSCS	54(45.0%)	0(0%)	30(55.55%)	24(44.44%)	0(0%)
Previous 2 LSCS	26(21.7%)	0(0%)	10(38.46%)	10(38.46%)	6(23.1%)
Hysteroscopic Myomectomy without h/o LSCS	3(2.5%)	3(100%)	0(0%)	0(0%)	0(0%)
Lap. Myomectomy with no h/o LSCS	4(3.3%)	0(0%)	4(100%)	0(0%)	0(0%)
Lap Myomectomy with h/o LSCS	6(5.0%)	0(0%)	4(66.66%)	2(33.33%)	0(0%)
D&E with h/o LSCS	17(14.2%)	0(0%)	6(35.29%)	6(35.29%)	5(29.41%)
D&E without h/o LSCS	10(8.3%)	3(30%)	0(0%)	4(40%)	3(30%)
Total	120	605%)		46(38.33%)	14(11.66%)

Table 7: Distribution of gestational age in non scarred uterus according to the type of obstetric history.

Gravidity of patients	Number of patients	6 Weeks	6 to 8 weeks	8 to 10 weeks	10 to 12 weeks
Primigravida	60(42.85%)	0(0%)	45(75%)	15(25.0%)	0(0%)
Previous 1 normal delivery	45(32.14%)	3(6.66%)	8(17.77%)	20(44.44%)	14(31.11%)
Previous 2 normal delivery	35(25.0%)	3(8.57%)	11(31.42%)	15(42.85%)	6(17.14%)
Total	140	6(4.28%)	64(45.71%)	50(35.71%)	20(14.28%)

Outcome of medical regimen

Initially we have prescribed the medical regime in all recruited patients irrespective to scarred and nonscarred uterus. The outcome of the medical regimen was subdivided into complete,

incomplete and failure. In table no. 8 and 9, we have shown the outcome of the patients in relation to gestational age in the scarred and nonscarred uterine patient respectively.

Table 8: Outcome of medical regimen in relation to Gestational age in scarred uterus

Gestational age by Ultrasonography	Total number of patients	Complete	Incomplete	Failure
Up to 6 weeks	6 (5%)	3 (50%)	3 (50%)	0 (0%)
6 to 8 weeks	54 (45%)	20 (37.03%)	20 (37.03%)	14 (25.92%)
8 to 10 weeks	46 (38.33%)	20 (43.47%)	14 (30.43%)	12 (26.08%)
10 to 12 weeks	14 (11.66%)	4 (28.57%)	6 (42.85%)	4 (28.57%)

Table 9: Outcome of medical regimen in relation to gestational age in non scarred uterus

Gestational age by Ultrasonography	Total number of patients	Complete	Incomplete	Failure
Up to 6 weeks	6 (4.28%)	6 (100%)	0 (0%)	0 (0%)
6 to 8 weeks	64 (45.71%)	60 (93.75%)	4 (6.25%)	0 (0%)
8 to 10 weeks	50 (35.71%)	44 (88%)	3 (6%)	3 (6%)
10 to 12 weeks	20 (14.28%)	16 (80%)	4 (20%)	0 (0%)

In non scarred uterus patients, out of 140 patients, 126 patients (90.0%) complete 11 patients (~7.8%) incomplete and 3 patients (~2.2%) failure missed abortion to medical regimen. In scarred uterus patients, out of 120 patients, 47 patients (39.2%) complete, 43 patients (~35.8%) incomplete and 30 patients (~25.0%) failure missed abortion to medical regimen. We found that relatively higher numbers of the patient were noted in the incomplete and failure part of the medical regimen outcome in the scarred uterus

category which was statistically significant.

Side effects and complications of medical regimen-

The observed side effects of the medical regimen were like nausea, vomiting, diarrhoea, fever, rigor and abdominal pain/cramps. These observed side effects are categorized according to the subcategories of the patients of scarred and nonscarred uterus in tabular form in table no 10 and 11.

Table 10: Distribution of side effects in scarred uterus

Type of surgery	Number of patients	Nausea	Vomiting	Diarrhoea	fever	Rigor	Abdominal pain/cramps
Previous 1 LSCS	54 (45.0%)	1	1	2			50
Previous 2 LSCS	26 (21.7%)	2	1	1			22
Hysteroscopic Myomectomy without h/o LSCS	3 (2.5%)						3
Lap. Myomectomy with no h/o LSCS	4 (3.3%)	1					4
Lap Myomectomy with h/o LSCS	6(5.0%)	2	1				5
D&E with h/o LSCS	17 (14.2%)	2	1			1	15
D&E without h/o LSCS	10 (8.3%)	1		1		1	8
Total	120	9	4	4		2	107

Table 11: Distribution of side effects in non scarred uterus

Gravidity of patients	Number of patients	Nausea	Vomiting	Diarrhoea	Fever	Rigor	Abdominal pain/cramps
Primigravida	60(42.9%)	2	2			1	50
Previous 1 normal delivery	45(32.1%)	2	2	1			20
Previous 2 normal delivery	35(25.0%)	2				2	20
Total	140	6	4	1		3	90

Most common side effect of this regimen for both scarred and non scarred uterus was abdominal pain/cramps which was relieved was simple antispasmodic, Prostaglandin inhibitors was not given for relief of pain.

Some patients felt slight nausea; vomiting, rigor and fever all was

relieved by just reassurance did not require any medication.

We found that there were no such significant side effects of the medical regimen in the nonscarred uterus. The observed complications in the scarred uterine patients are categorized in the tabular form in table no. 12.

Table 12: Distribution of complication in scarred uterus

Type of surgery	Number of patients	Bleeding	Sepsis
Previous 1 LSCS	54	4	
Previous 2 LSCS	26	6	
Hysteroscopic Myomectomy without h/o LSCS	3	1	
Lap. Myomectomy with no h/o LSCS	4	1	
Lap Myomectomy with h/o LSCS	6	2	1
D&E with h/o LSCS	17	4	1
D&E without h/o LSCS	10	3	
Total	120	21	2

We found there were some relatively major complications were observed in the scarred uterus patients however no such fatal damage of the patients is noted.

Discussion

Variety of methods is available for termination of missed abortion. It constitutes both surgical and medical intervention. Cohain JS *et al.* [26] found that miscarriages are common among parous women; 43% of parous women report having experienced one or more first trimester spontaneous miscarriages. Irony of this era is increased rate of surgical intervention although they are minimally invasive. Increased rate of caesarean section has again become fortunate or unfortunate for both patient and obstetrician. Termination of missed abortion in a patient having history of previous uterine surgery has become a difficult task for obstetrician. Repetitive D&Es for missed abortion for a patient is a big psychological trauma rather than physical trauma.

Use of standard MTP regimen containing Mefipristone 200 mg followed by Misoprostol 800 mcg in two divided doses at an interval of 12 hours is not only safe but effective also for non scarred uterus. It is widely accepted by patients. In present study, in non scarred uterus patients, out of 140 patients, 126 patients (90.0%) complete 11 patients (~7.8%) incomplete and 3 patients (~2.2%) failure missed abortion to medical regimen. In scarred uterus patients, out of 120 patients, 47 patients (39.2%) complete, 43 patients (~35.8%) incomplete and 30 patients (~25.0%) failure missed abortion to medical regimen. We found that the success rate of the medical regime in the nonscarred uterus was significantly high as compared to nonscarred uterus. Most of the cases of scarred uterus landed up in incomplete abortion and underwent manual vacuum aspiration and other surgical techniques. Li YT *et al* also showed the comparable results in non scarred uterus for complete abortion rate (~92.6%) for medical regimen [5] The results of medical regime for the missed abortion in form of the complete and incomplete abortion for scarred uterus are not specified. However few papers in the published literature show discrepancy as compare to our results [27, 28].

In present study, most common side effect of this medical regimen for both scarred and non scarred uterus was abdominal pain/cramps which was relieved was simple antispasmodic, Prostaglandin inhibitors was not given for relief of pain. Some patients felt slight nausea; vomiting, rigor and fever all was relieved by just reassurance did not require any medication. The side effects and complications are near similar to most of the published literature. [12-17, 19-21, 27] However there was no single patient who experienced rupture of the scarred uterus, which is

mentioned as a serious complication in the few publications [7, 28],

The present study is also untouched with following limitations

1. Present study was conducted in the limited geographical area and on relatively small sized sample. To extrapolate our results in the whole population, this study should be conducted in the large geographical area and on big sized sample.
2. Single centre study so discrepancy in outcomes may be possible.

Conclusion

We concluded that medical regime should be initial approach for scarred as well as non scarred missed abortion patients but we should be ready for alternative surgical approach in scarred uterine patients. The complication in the patients with missed abortion and having the scarred uterus are posing to relatively more complications.

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