Original Article

A Comparative Study On Surgical And Medical Management In Early Pregnancy Failure.

Dr.Bairi Agaiah Goud[1*], Dr.Karnakar Reddy Yalla[2]

[1*]Department Of Pharmaceutics, S.R.R College Of Pharmaceutical Sciences Valbhapur (V), Elkathurthy(M), Hanamkonda Dist-Telangana, India -505476
[2]department Of Pharmacy Practice, S.R.R College Of Pharmaceutical Sciences Valbhapur (V), Elkathurthy(M), Hanamkonda Dist-Telangana, India -505476

***Corresponding Author: -** Dr.Bairi Agaiah Goud

*Department Of Pharmaceutics, S.R.R College Of Pharmaceutical Sciences Valbhapur (V), Elkathurthy(M), Hanamkonda Dist-Telangana, India -505476
DOI:10.47750/pnr.2022.13.S08.530

Abstract

Medical management is increasingly used to treat women who have failed pregnancy in the first trimester. We assessed the effectiveness of this treatment in randomized trial. To provide evidence-based recommendations on the effectiveness of abortion medications for the clinical management of abortion, as well as the satisfaction of the users.

INTRODUCTION

Early pregnancy failure also known as blighted ovum, early fetal death or missed abortion complicates15 to 20% of all pregnancies(1).The most common types of early pregnancy failure include spontaneous abortion or feataldeath(2). Previous spontaneous abortions and multigravidity are also well known risk factors for spontaneous abortion in subsequent pregnancies (3).

The world health organization estimated that worldwide 210 million women become pregnant every year and that about 2/3rd of them, or approximately 130 million, delivery a live infants. The remaining 1/3rd of pregnancies end in spontaneous abortion, still birth, or induced abortion(4). Approximately 1 in 4 women will have an early pregnancy loss during her life time (5). Patients with early pregnancy often present to the emergency department with chief complaints of abdominal pain and or vaginal bleeding in the first trimester. Complications of early pregnancy are common and include miscarriage, ectopicand heterotopic pregnancy (6).

For >50 yrs, the standard management of early pregnancy failure has been dilatation and curettage (D &C)(7). Although this procedure was introduced to reduce the risk of infection and haemorrhage, it is reported to be associated with many complications including cervical trauma,perforation of the uterus and endometritis. In addition, uterine synechia, reduced fertility, tubal damage and recent times as a result of positive experiences with prostaglandin analog (most commonly misoprostol), the medical termination of the trimester miscarriage is accepted as a safe and effective alternative(8).

SPONTANEOUS ABORTION

A spontaneous abortionis the natural death of the fetus in the woomb.

TYPES OF SPONTANEOUS ABORTION:

Threatened abortions: Threatened abortion is a relatively common complication during pregnancy, occuring in approximately 20% of all pregnancies (10).

Inevitable abortions: It refer to the presence of an open internal in the presence of bleeding in the first trimester of pregnancy (11).

Complete abortions: It means that the body has expelled all the products of pregnancy (blood, tissue, embryo) and there is no need for surgery afterwards (12).

Incomplete abortion: The pregnancy is lost but some fetal or placental are not shed from the uterus (13).

Missed abortion: Missed abortion is suspected if the uterus does not progressively enlarge or ifquantitative beta-hcG is low for gestational age or does not double within 48 to 72 hrs(14).

METHODS OF ABORTION

There are different methods of abortions include medical abortions and surgical abortions. Medical abortion is an effectiveand acceptable option for abortion care [15]. Medical abortion is a nonsurgical method for women with pregnancies of ≤ 63 days gestation as determined by a combination of last menstrual period, by manual exam, ultrasound, or quantitative measurement of β-hcG. Twomedications are required; 1. Mifepristone 2. Misoprostol [16]. Surgical abortion include dilation and curettage is a technique which is performed under anesthesia [17].

DRUGS USED IN ABORTION

Mifepristone: It is an organic chemical used for abortifacient initially, was developed during the early 1980s by team of researches working for the french pharmaceutical company [18]. Mifepristone is aprogestational and glucocorticoid hormone antagonist. As an abortifacient mifepristone interferes with the hormone (progesterone) function in the body [19]. Some people feel nauseous or start bleeding after taking mifepristone, but its not common [20].

Misoprostol: It is a synthetic prostaglandin E1 analogue, it binds to myometrial cells to cause strong myometrial contractions leading to expulsion of tissue. It is commonly used for medical abortion, cervical priming, the management of miscarriage, induction of labor and management of post partumhaemorrhage. It can be given orally, vaginally, sublingually, buccally or rectally. Misoprostol is taken right away, or upto 48hrs after the first pill (mifepristone). This misoprostol causes cramping andbleeding to empty uterus.

AIMS AND OBJECTIVES:

- To compare the effectiveness of medical and surgical methods in first trimester abortions.
- To evaluate the effective dose of medical treatment in first trimester abortion.
- To determine the prevalence of age related abortions.

OBJECTIVE OF THE STUDY:

To provide evidence – based recommendations on the effectiveness of abortion medications for theclinical management of abortion, as well as the satisfaction of the users.

METHODOLOGY

- Patients visiting clinics are reviewed. The patients who are meeting the study criteria are enrolled into study. The following information is collected: Patient demographics (Age, Gender, Weight, Height), Past medical history, medication history, social history, Early pregnancy scan.
- Data about previous pregnancies, deliveries, miscarriages, and induced abortions were inquired.Clinical examination and transvaginal ultrasonography was performed to each patient to confirm eligibility criteria before recruiting.
- All the patients are allowed to receive 400mg of mifepristone orally on the primary visit to the outpatient clinic. Followed by they are advised to take 400mcg of Misoprostol orally once daily for about 2 days. The observation time in the outpatient clinic after the administration ofmisoprostol was 1 week.
- The patients were routinely given prophylactic oral analgesic (Drotaverine), Antibiotic before Administration of misoprostol. At second visit, patient visited the hospital again for transvaginal ultrasonography (for RPOC).
- Patient were instructed to be alert to the expulsion of the conceptus and to note the amount of bleeding and symptoms such as abdominal pain, Vomitings, were to be recorded.
- During their second visit based on the RPOC (Size in cm) in endometrial cavity further doses of misoprostol vaginally were recommended for patients.
- In further visit if the gestational sac was intact, Surgical abortions(D&C) was recommended
- Normal Ultra sonographic findings indicated the end of the therapy.

RESULTS

In our study 150 patients with first trimester miscarriage were recruited. They were treated with bothmedical and surgical methods. About 125 patients are treated with medical procedure and 25 are
treated with surgical procedure.

Table-1: Age Wise Of Aborted Patients.

Age Group	N
18-22	44
23-27	66
28-32	36
Above 32	4
Total	**150**

Figure-1: Age wise Distribution ofaborted patients.

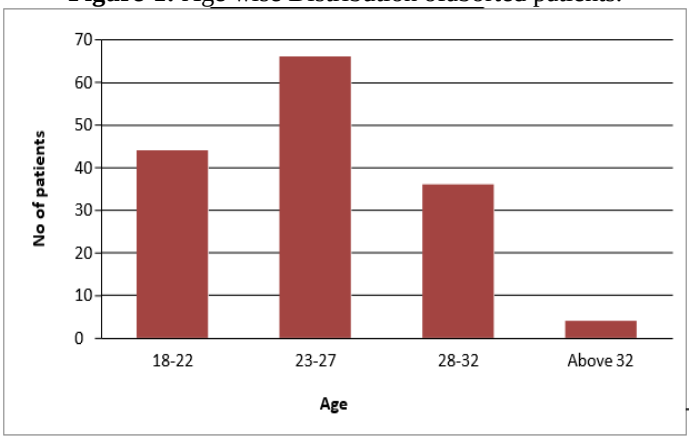


Table-1 andFigure-1 illustrate that abortion rate is high in the age group of 23-27 years.

Table-2: Reasons of abortion

Reason for Reason forabortion	No of patients
Absence of cardiac activity	73
Anembryonic gestation	44
Incomplete abortion	33

Figure-2: Distribution of reasons for abortion.

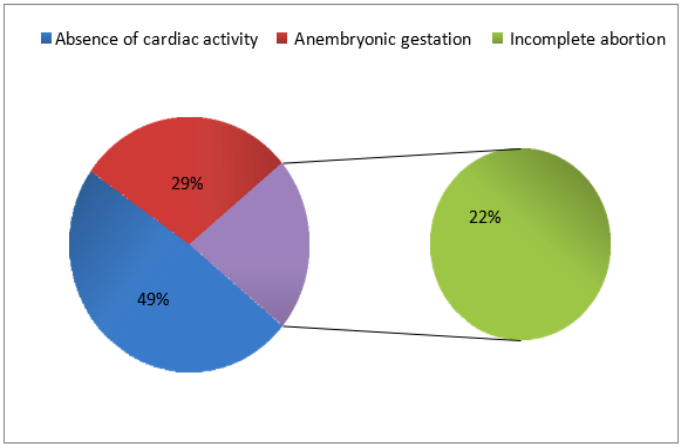


Table-2 and Fiure-3 illustrates that majority of the abortions(49%) are due to the absence ofcardiac activity.

Table-3: Patients distribution on History of Consanguinity.

History of consanguinity	**Numberof patients**
No	134
Yes	16
Grand Total	**150**

Figure-3: Distribution of consanguinity history of aborted patients.

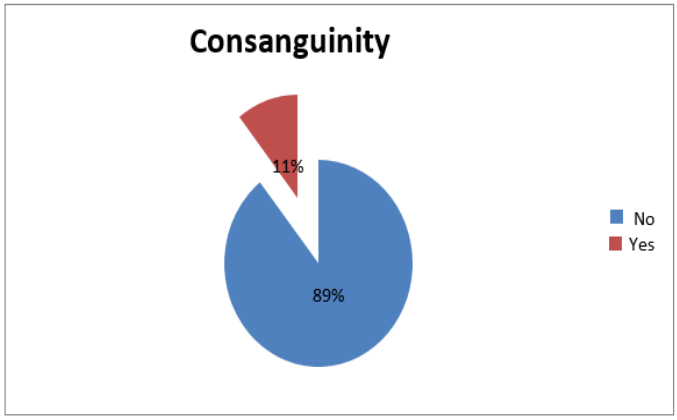


Table-3 and Figure-3 illustrates that majority of the patients(89%) had no history ofconsanguinity.

Table-4: No Of Patients With Respect To Gestational Age And Average Dose.

Gestational age	No of patients with medical treatment	Avg no of doses
4-5WEEKS	6	5.5
5WEEKS	6	4.5
5-6WEEKS	26	5.692307692
6WEEKS	5	5.8
6-7WEEKS	37	6.621621622
7-8WEEKS	23	6.391304348
8WEEKS	12	6.416666667
8-9WEEKS	6	7.166666667
9-10WEEKS	4	7.5

Figure-4: Gestational Age Wise Distribution Of Patients With Average No Of Doses.

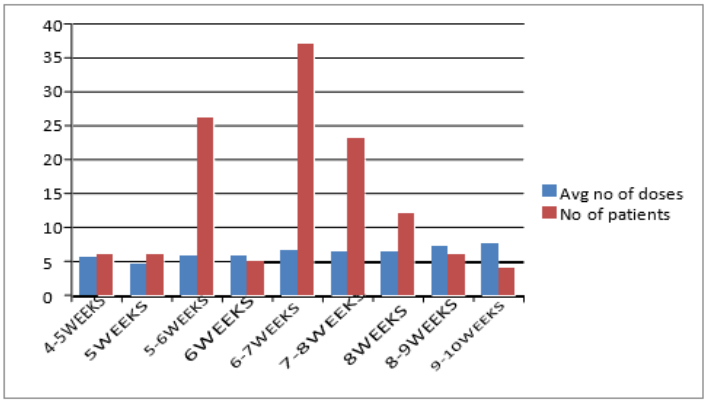


Table-4 and Figure-4 illustrates that dose is directly proportional with gestational age.

Table-5: Treatment wise distribution of aborted patients.

Managementprocedure	No of patients
Medical	125
Surgical	25
Grand total	150

Figure-5: Treatment Wise Distribution Of Aborted Patients.

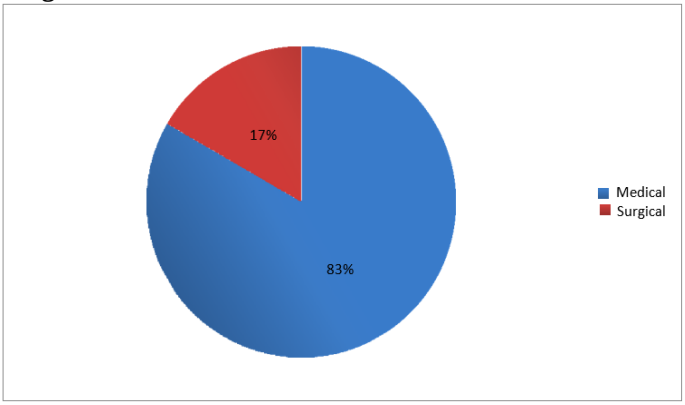


Table-5: and Figure-5 illustrate that 83% of the aborted patients are treated with medicalprocedure and 17% of the aborted patients are treated with curettage

Table-6: Management Procedure Of The Patients With Their Respective Gestational Age.

Gestational age	No of patients withDand C	No of patients without Dand C
4-5WEEKS	0	6
5WEEKS	1	6
5-6WEEKS	5	26
6WEEKS	1	5
6-7WEEKS	2	37
7WEEKS	1	0
7-8WEEKS	7	23
8WEEKS	0	12
8-9WEEKS	4	6
9WEEKS	1	0
9-10WEEKS	2	4
12WEEKS	1	0

Figure-6: Gestational Age Wise Distribution Of Patients With Their Management Procedure

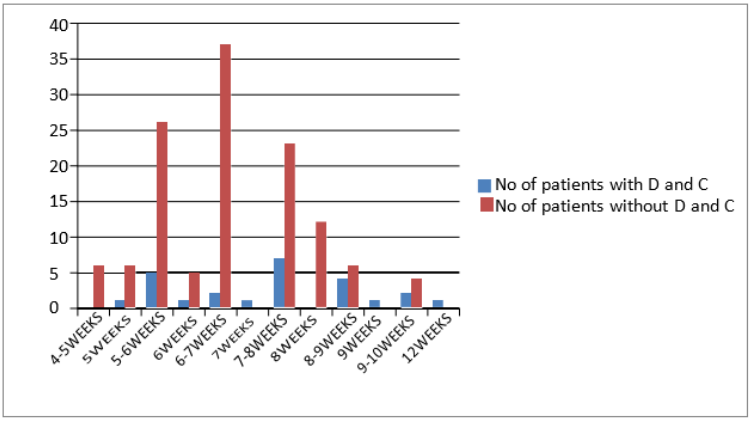


Table-6 and Figure-6 Describes that no of patients with D&C and no of patients without D&Cwith their respective gestational age.

Table-7: Expulsion rate of RPOC.

No of patients	No of days for completeexpulsion
11	7 days
24	10 days
30	15 days
19	18 days
41	20 days

Figure-7: Distribution of patients by expulsion rate of RPOC.

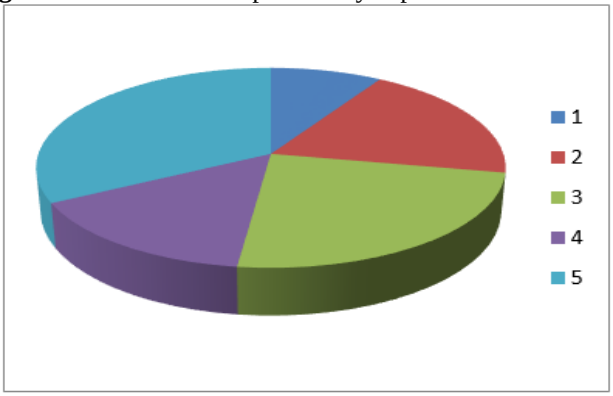


Table-8: Visual analogue scale for pain

Visual analogscale for pain	**Number of patient**
No pain	7
Mild Pain	12
ModeratePain	64
Severe Pain	55
Worst Pain	12

Figure-8: Patient distribution according to the pain severity.

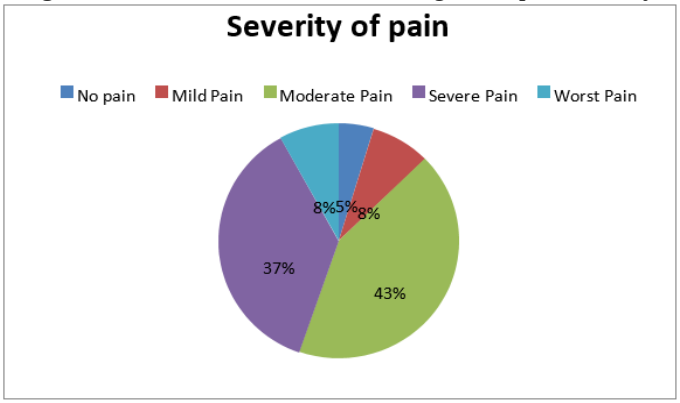


Table-8 and figure-8 illustrate that 42% of patients are with moderatepain.

Table-9: Age group Vs vaginal bleeding

Age	Mild	Moderate	Severe
18-22	8	25	11
23-27	13	28	25
28-32	4	14	18
33-35	3	0	1

Figure-9: Age group Vs vaginal bleeding

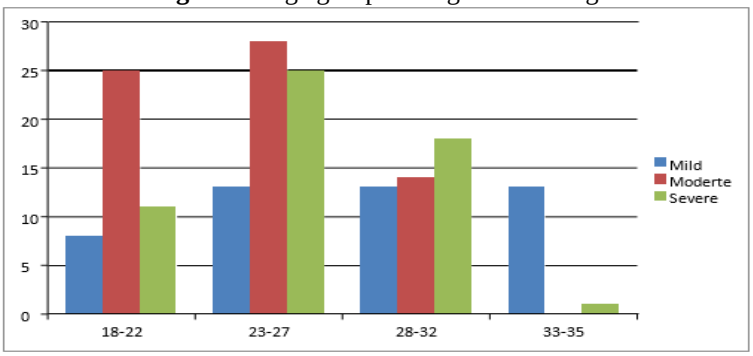


Table-10: Correlation of pain with no of doses.

VAS for pain	No of doses		
	1-4 doses	5-8 doses	9-11 doses
Scale 0-5	15	38	3
Scale 6-10	20	70	4

Table-11:

	1-7doses	**8-11 doses**
No of patients withsurgical treatment	**25**	**0**
No of patients withmedical treatment	**92**	**32**

Figure-11: No of doses Vs D and C

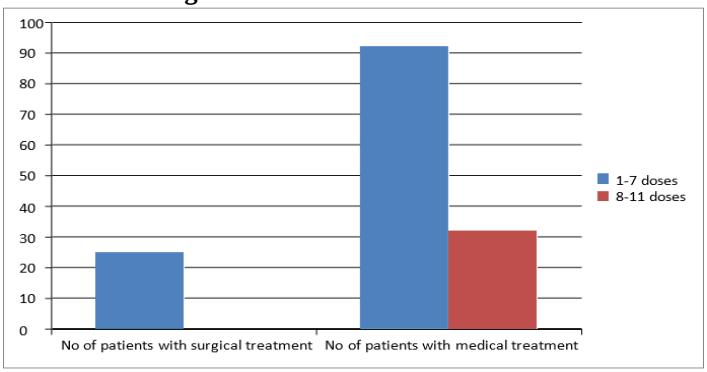
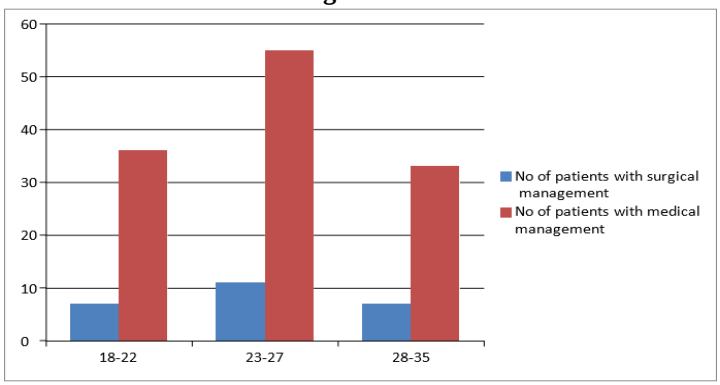


Table-12: Age group Vs D and C

Age	**No of patients with surgical management**	**No of patients with medical management**	**Mean**
18-22	7	36	21.5
23-27	11	55	33
28-35	**7**	**33**	**20**

Figure-12:



DISCUSSION

This study compared medical treatment and curettage in women with early pregnancy failure. The 83% of people in our study are having complete expulsion with medical treatment which is compared with the 60-88% success rates described in other trials, using comparable misoprostol treatment protocols and criteria for diagnosis of incomplete abortion (21). The side effects were tolerable. Misoprostol treatment was acceptable to most women.

Available evidence of efficacy and safety of medical abortion in the late first trimester is limited and highlights the need for well-designed trials in this gestational age range. Complete abortion rates for all regimens investigated ranged from 78.6% to 94.6%.Success rates were in the higher range when misoprostol dosing was repeated, both in combination regimens and alone, and when vaginal comparedwith oral administration was used. Ongoing pregnancy rates were lowest with the combination regimen, mifepristone and misoprostol.

Over all, safety issues reported with medical abortion in the late first trimester were rare. An increased risk of heavy bleeding appears more likely with medical abortions as compared with surgical (22) and appears to be greater as gestational age increases. The rate of surgical intervention for excessive/prolonged bleeding was significantly greater for the later gestational age (23).

The efficacy of misoprostol treatment for early pregnancy failure has varied greatly (ranging from 13 to 100 %) in previous retrospective and prospective studies. The variation may be attributable to small sample size, type of pregnancy failure the dose of misoprostol, and the criteria used to define success.
Despite experiencing more side effects, women receiving misoprostol reported feeling less pain and expressed a high satisfaction with the procedure than those in D and C group.

One particularly notable aspect is the use of the ultrasound for examining the success of the treatment and complication that need to be confirmed. The high success rate in misoprostol group and theminimum reports of adverse outcomes suggests that the use of misoprostol for the treatment of abortion can be safe and effective.

From this study it is clear that medical method offers a safe and simple alternative to surgical treatmentof abortion. The health care system is comprised of many small primary care facilities dispersed throughout the rural areas, where more than 70% of the country population lives. These small units do not have the capacity or equipments to offer surgical method, but with proper training, could potentiallytreat abortions with medical method. Making this simple and effective treatment widely available couldavert numerous complications and adverse outcomes experienced by women in these settings who are often left to seek medical care outside the formal healthcare system.
As an added incentive, recent analyses indicate that misoprostol is a less costly than surgical evacuation for women presenting with early pregnancy failure (26,27).

Women who underwent curettage after misoprostol treatment had no recorded surgical complications.This was also reported in a study with 635 participants comparing misoprostol and curettage for treatment of early pregnancy failure, showing complications rates in women treated with curettageafter failed misoprostol of 0%vs 5.4% in women allocated to curettage (Chung et al., 1999). This reduction insurgical complications could be explained by the cervical priming effect of misoprostolallowing easy surgical access to the uterine cavity. This effect is well documented in therapeutic abortion (el Refaey et al., 1994).
In summary, our study shows that treatment of early pregnancy failure ……

FUTURE DIRECTIONS

Furthermore, research on optimal dose finding in order to increase evacuation rates for misoprostol treatment are warranted.
Future work should include lobbying the government to include misoprostol in its essential medicineslist, and to ensure an adequate supply is available across the country.
The possibility to choose the method after patient information and discussion will probably improve thesatisfaction with the treatment.

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