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Medical Management of Incomplete Abortion with Misoprostol -A Quasi-Experimental Study in DMCH

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Abstract **Original Research Article**

Objective: In this study our main goal is to describe the effectiveness of misoprostol in medical management of incomplete abortion. ***Method:*** This Quasi experimental study was done on 100 patients with incomplete abortion cases who fulfilled the inclusion and exclusion criteria were enrolled for the study at Dhaka medical college and hospital from August 2011 to January 2012. ***Result:*** During the result according to parity 32(32.0%) patients was found primi gravida; 32(32.0%) second gravida; 18(18.0%) third gravida, 12(12.0%) fourth gravida, 4(4.0%) fifth gravida and 2(2.0%) was sixth gravida. Among primi gravida 4(4.0%) patients required 1st dose, 10(10.0%) 2nd doses, 6(6.0%) 3rd doses and 12(12.0%) in 4th doses. Among multi gravida 22(22.0%) patients required 1st dose, 20(20.0%) 2nd doses, 10(10.0%) 3rd doses and 12(12.0%) in 4th doses. 65% patients strongly agreed about easy ingestion of the drug 33(33.3%) agreed and disagree 2(2.0%), 5% of patients strongly agreed of having discomfort after ingestion of the drug, 15% disagreed, 30% uncertain. ***Conclusion:*** This study concluded that misoprostol is the potential and effective drug in the medical management of incomplete abortion. Treatment with misoprostol can reduce the demand for surgical evacuation in cases of incomplete abortion. Further study is needed for better outcome.

Keywords: misoprostol, incomplete abortion, quasi experimental study.

INTRODUCTION

In Incomplete abortion, the products of conception have partially expelled out from the uterine cavity. In gestational age of less than 10 weeks duration the fetus and placenta are usually enmesh together. After 10 weeks they may be passed separately with a portion of product retained in the uterine cavity [1].

More than fifty percent human pregnancies may be lost, although in only about fifteen percent, this is perceived as miscarriage, with lower abdominal pain and uterine bleeding being the presenting symptoms of threatened/inevitable abortion. A proportion of these unsuccessful pregnancies are now diagnosed as incomplete abortion [2]. Approximately 10 to 20 Percent of clinically recognized pregnancies fewer than 20 weeks of gestation will undergo spontaneous abortion [3]. Eighty percent of these occur in the first 12 weeks of gestation [4]. Misoprostol, a methyl-ester of PGE_1, marked for prevention and treatment of peptic ulcer disease. Although it is not approved to be used in obstetric and gynecologic practice in many countries [5]. It is being very successfully used for the management of pregnancy, induction of abortion and management of 3rd stage of labour and post-partum hemorrhage in many set up, it is now considered to be a very good drug to be used in these conditions [6]. A large number of studies have shown that misoprostol is highly effective in 1st and 2nd trimester abortion. The most frequent side effects include nausea, vomiting, diarrhea, low grade fever, uterine hyperstimulation [7].

The appropriate misoprostol dose, route, frequency of use for medical management of incomplete abortion has not been established and debate still exists concerning misoprostol administration. So, there is an urgent need to evaluate all available information for appropriate doses and safety of the drug.

In this study our main goal is to evaluate the efficacy and safety of misoprostol in the medical management of incomplete abortion.

OBJECTIVE

General objective

- To describe the effectiveness of misoprostol in the medical management of incomplete abortion.

Specific objective

- To detect the mean induction expulsion interval.
- To assess the cases in terms of age, parity, gestational age, socioeconomic condition.
- To find out total doses needed for complete expulsion of product of conception.
- To assess the side effects.
- To assess patient satisfaction level distribution of study patients.

METHODOLOGY

Type of study	**Quasi experimental study.**
Place of study	Dhaka Medical College Hospital, Dhaka
Study period	August 2011 to January 2012
Study population	Only consecutive 100 incomplete abortion cases who fulfilled the inclusion and exclusion criteria were enrolled for the study.
Sampling technique	Purposive

Inclusion Criteria

- Incomplete abortion cases diagnosed clinically and ultrasonographically.
- Patients who are hemodynamically stable.
- Only 1st trimester abortion case was taken.

Exclusion Criteria

- Patient having known medical diseases.
- Patient having history of hypersensitivity to prostaglandin.

METHOD

After selecting the patient for the study, the procedure and its safety was explained to the patient and a written consent was taken. After taking detailed history and performing necessary examinations, an ultrasound was done as an integral part of diagnosing incomplete abortion. Gestational age was evaluated by last menstrual period, bimanual examination and ultrasonography. Misoprostol is available in Bangladesh as tab. cytomis (200µg), isovent (100µg, 200µg). After doing required investigations, 3(600 microgram) misoprostol tablets (1 tab = 200µg) was given orally. The dose was repeated after 6 hours if needed and maximum 4 doses were given within 24 hours. Following administration of misoprostol, pulse, BP, temp, and systemic symptoms was monitored hourly, the patient was instructed to report cramps and vaginal bleeding initially and within 24 hours of administration of misoprostol. The patient was also instructed to report the time of expulsion of the product of conception. Patients satisfaction level was assessed with Lickert scale by 5 points

Statistical Analysis

- All relevant data for each individual patient was recorded in data collection sheet. Collected data was compiled and statistical analysis was done by using computer-based software, statistical package for social science (SPSS)

RESULT

In table-1 shows age distribution of the study patients (n=100). Where a total of 100 patients were included in this study. They were divided into five groups according to their age. 36.0% of the patients belonged to 21 – 25 years age group. The mean age was 25.34±6.43 years with range from 16 to 45 years. The following table is given below in detail:

Table-1: Age distribution of the study patients (n=100).

Age (in years)	**Number of patients**	**Percentage**
≤20	30	30.0
21-25	36	36.0
26-30	20	20.0
31-35	8	8.0
>35	6	6.0
Mean±SD	25.34	±6.43
Range (min-max)	(16	-45)

In figure-1 shows occupation status of the study patients where more than a half (58.0%) patient was housewife. Garments worker was 22(22.0%), service holder 8(8.0%), student 4(4.0%) and health assistant/visitor 4(4.0%). The percentage of teacher and housemaid were same among the study population. The following figure is given below in detail:

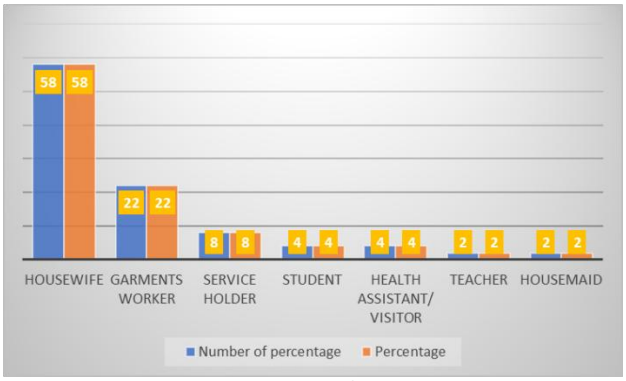

Fig-1: Occupation status of the study patients

In figure-2 shows socioeconomic condition of the study patients. Maximum 60(60.0%) patients came from low socio-economic status, 38(38.0%) from middle socioeconomic group and 2(2.0%) belongs to higher group. The following figure is given below in detail:

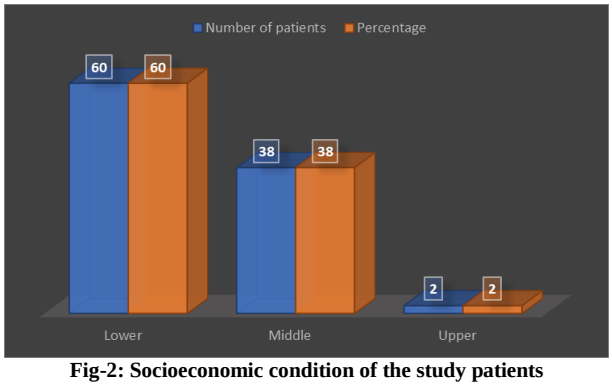

Fig-2: Socioeconomic condition of the study patients

In table-2 shows distribution of the study patients according to parity where 32(32.0%) patients was found primi gravida; 32(32.0%) second gravida; 18(18.0%) third gravida, 12(12.0%) fourth gravida, 4(4.0%) fifth gravida and 2(2.0%) was sixth gravida. The following table is given below in detail:

Table-2: Distribution of the study patients according to parity (n=100).

Parity	Number of patients	Percentage
0	32	32.0
1	32	32.0
2	18	18.0
3	12	12.0
4	4	4.0
5	2	2.0

In figure-3 shows distribution of the study patients according to gestational age (n=100). The mean gestational age was found 10.2±1.97 weeks with range from 6 to 12 wks. The following figure is given below in detail:

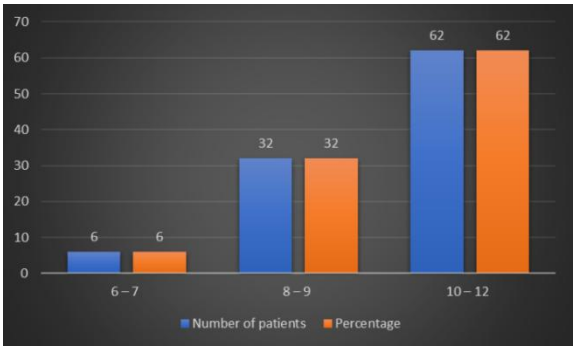

Fig-3: Distribution of the study patients according to gestational age

In table-3 shows distribution of the study patients according to per vaginal examination findings (n=100). Among P/V findings, cervical os 1.5 cm was found in 54 (54.0%) patients and closed was found in 44(44.0%) patients. Uterus size was 8 weeks in 34(34.0%). The following table is given below in detail:

Table-3: Distribution of the study patients according to per vaginal examination findings (n=100)

Per-vaginal findings	Number of patients	Percentage
OS (cm)		
1.5	54	54.0
2	2	2.0
Close	44	44.0
UT (weeks)		
6	24	24.0
8	34	34.0
10	32	32.0
12	10	10.0

In table-4 shows distribution of the study patients according to induction expulsion interval. In (50.0%) of study population the induction expulsion interval was found between 7-12 hours. The mean induction expulsion interval was 10.83±5.45 hours with range from 4 to 29 hours. The following table is given below in detail:

Table-4: Distribution of the study patients according to induction expulsion interval (n=100)

Induction expulsion interval (hours)	Number of patients	Percentage
≤ 6	24	24.0
7 – 12	50	50.0
13 – 18	15	15.0
>18	11	11.0
Mean±SD	10.83	±5.45
Range (min-max)	(4	-29)

In table-5 shows relation between gravida and number of doses required for the study patients. Among primi gravida 4(4.0%) patients required 1st dose, 10(10.0%) 2nd doses, 6(6.0%) 3rd doses and 12(12.0%) in 4th doses. Among multi gravida 22(22.0%) patients required 1st dose, 20(20.0%) 2nd doses, 10(10.0%) 3rd doses and 12(12.0%) in 4th doses. The following table is given below in detail:

Table-5: Relation between gravida and number of doses required for the study patients (n=100)

Gravida	1st dose (n=30)		2nd dose (n=30)		3rd dose (n=16)		4th dose (n=24)	
	n	%	n	%	n	%	n	%
Primi	4	4.0	10	10.0	6	6.0	12	12.0
Multi	22	22.0	20	20.0	10	10.0	12	12.0

In figure-4 shows side effect of the study patients. No side effect patients was found in 88(88.0%). Nausea 6(6.0%), vomiting 4(4.0%) and cramping 2(2.0%) of the study patients. The following figure is given below in detail:

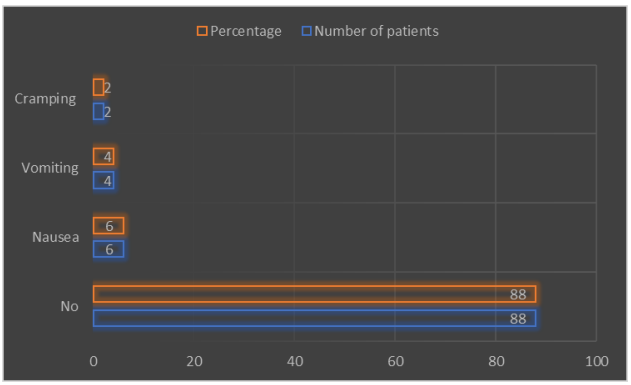

Fig-4: Side effect of the study patients.

In table-6 shows USG findings after 24 hours. Normal USG was found 88(88.0%) and retained product was in 12(12.0%). These 12 patients failed medical management and D & C done. The following table is given below in detail:

Table-6: USG findings after 24 hours (n=100)

USG findings after 24 hours	Number of patients	Percentage
Normal	88	88.0
Retained product	12	12.0

In table-7 shows satisfaction level of the study patients. 65% patients strongly agreed about easy ingestion of the drug 33(33.3%) agreed and disagree 2(2.0%), 5% of patients strongly agreed of having discomfort after ingestion of the drug, 15% disagreed, 30% uncertain. The process was more preferable than surgical procedure 55.0% strongly agreed, 4.0% disagreed and about recommendation of this process to other relatives 49.0% strongly agreed, 42(42.0%) agreed, 5(5.0%) uncertain and 4(4.0%) disagreed. The following table is given below in detail:

Table-7: Patients satisfaction level distribution of the study patients (n=100)

Patients satisfaction level	Number of patients	Percentage
Ingestion of the drug was easy		
Strongly agree	65	65.0
Agree	33	33.0
Uncertain	0	0.0
Disagree	2	2.0
Strongly disagree	0	0.0
Did you feel any discomfort		
Strongly agree	5	5.0
Agree	15	15.0
Uncertain	30	30.0
Disagree	44	44.0
Strongly disagree	6	6.0
Was the process more preferable than surgical Procedure		
Strongly agree	55	55.0
Agree	36	36.0
Uncertain	5	5.0
Disagree	4	4.0
Strongly disagree	0	0.0
Did you recommend this process to other relatives		
Strongly agree	49	49.0
Agree	42	42.0
Uncertain	5	5.0
Disagree	4	4.0
Strongly disagree	0	0.0

DISCUSSION

Several studies show, the mean age of the patients were 25.8 years, 25.5±6.8 years and 25.8±6.0 years respectively, which are closely resembled with the present study[6,7].

One report mentioned that 87.0% women received one to three doses of misoprostol and in the remaining 13.0% the regimen was repeated, which is comparable with the current study [10]. One report has shown the median induction expulsion interval was 15.2 hours, which is comparable with the current study [11].

One study result confirms that 400 mcg sublingual misoprostol effectively evacuates the uterus for most women experiencing incomplete abortion. The high level of satisfaction and overall tolerability of the side effects also attests to the ease of use of this method. International momentum and consensus around the drug's utility for this indication has grown stemming in part from misoprostol's inclusion on the WHO's essential medicines list (EML) for this indication [12].

Another study said that 87.5% were satisfied or very satisfied and 93.8% would choose this method again in future [13].

Recently, large number of studies is conducted to evaluate the efficacy of mifepristone and misoprostol regime, using different routes in different doses and in different interval for medical termination of early

pregnancy. For example, misoprostol is used orally, sublingually, buccally in different doses of 200, 400 and 600µg the interval between the drugs are also shortened from 48 hours to 24 hours to 12 hours or even given simultaneously[14,15].

CONCLUSION

This study concluded that misoprostol is the potential and effective drug in the medical management of incomplete abortion. Treatment with misoprostol can reduce the demand for surgical evacuation in cases of incomplete abortion.

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