MANAGEMENT OF FIRST TRIMESTER MISSED MISCARRIAGE WITH MINIMAL SURGICAL INTERVENTION

Azra Saeed Awan, Umber Bakhtiar, Riffat Najeeb, Sadia Akhtar

Islamic International Medical College Riphah International University Islamabad

ABSTRACT

Objective: To observe the efficacy of Prostaglandin E1 analogue (misoprostol) in management of 1st trimester missed miscarriage.

Study Design: Observational study

Place and Duration of study: The study was done from June 2005 to June 2007 at Pakistan Railway Hospital Rawalpindi

Patients and Methods: All patients presenting with 1st trimester missed miscarriage excluding suspected ectopic pregnancy, massive vaginal bleeding at admission, previous 3 scars, severe anaemia, history of handling before and history of bleeding disorders were subjected to the 1000 microgram regime of oral misoprotol in divided doses in 6 hours 400 micrograms orally stat and then 200 microgram 2 hourly 3 doses. After informed counselling and consent of the patient, a detailed Pelvic scan, blood complete picture, Hepatitis screening, blood sugar random and blood group was done.

The patients were hospitalized and counselled as soon as first dose was given. The main outcome measures which were evaluated were complete abortion, incomplete abortion, severe haemorrhage, gastro-intestinal disturbances like nausea / Vomiting and any surgical intervention, if required like dilatation and curettage and evaculation and curettage.

Results: A total of 100 women were recruited to this study, 97% patients completed the 6 hours dosage regime and 3% patients expelled completely after initial doses.

In 30% patients' evacuation was done which means that no cervical dilatation was required and the time of surgery/general anaesthesia was less than 6 minutes on average. Nausea and vomiting were seen in only 6% patients but considered as tolerable and transient. Only 1% patient had heavy bleeding and required an emergency evacuation, histopathology of which revealed molar tissue. None of them required blood transfusion. Majority of patients had no side effects.

Patient satisfaction with oral misoprostol treatment was high, as many participants reported that they would prefer the same treatment if they have another miscarriage**.**

Conclusion: Medical management of missed abortion is effective, reduces the need of dilatation and curettage, and is associated with high levels of patient satisfaction.

Keywords: Misoprostal, evacuation, missed abortion.

INTRODUCTION

Missed abortion is a common complication of early pregnancy occurring in up to 15% of all clinically recognized pregnancies [1]. The majority of cases are currently treated by dilatation and curettage (D&C) which has been the conventional method of treatment over 50 years. The rationale, that all spontaneous abortions should be treated with dilatation and curettage to prevent infection and Haemorrhage, has been questioned [2], and several studies have reported success with expectant management of incomplete abortion [3, 4]. Now a day, diagnosis of early

Correspondence: Dr. Azra Saeed Awan, Associate Prof of Obs\Gynae, Islamic international Medical College, Rawalpindi.
E-mail: drazrah@yahoo.com
Recieved 29 March 2008; Accepted 5 June 2008

pregnancy failure is made possible by improvement in ultrasound imaging, which may have resulted in an increase in number of suction evacuation performed. However, this procedure is not without risks. It may be associated with cervical injury, uterine perforation, Pelvic infection and excessive bleeding. The overall complication rate varies 4-10 % [4]. Recently, alternative treatment approaches have been suggested. There is evidence that a substantial proportion of spontaneous miscarriages will resolve spontaneously. Further more, medical treatment using prostaglandin analogue and anti progesterone have shown to be effective in the management of spontaneous miscarriage.

Medical management was also found to be effective and may be able to generate cost savings when compared with surgical management [5]. The need for routine suction evacuation is thus being questioned.

Misoprostol, a synthetic prostaglandin oestrone analogue, has shown to be effective for cervical priming prior to suction evacuation or expulsion. However, data from randomized trials comparing expectant versus repeated vaginal misoprostal for abortion are there but very few. We therefore performed an observational study using 1000 microgram misoprostal in divided doses in 6 hrs orally as 400 microgram stat, 200 microgram 2 hrly in three doses for managing 1st trimester spontaneous missed abortion safely with avoiding traditional dilatation and curettage protocol at once.

PATIENTS & METHOD

Ethical approval for the study was granted by local Ethics Committee. A total of 100 women with a clinical diagnosis of first trimester missed miscarriage or an embryonic pregnancy were recruited. All gave informed consent after study had been explained including side effects and need for emergency evacuation. Inclusion criteria were non viable intrauterine pregnancy with no previous handling and heavy vaginal bleeding. However women who were experiencing light spotting, had a closed internal os and irregular uterine gestational sac were eligible.

Exclusion criteria were cases of suspected ectopic, severe anaemia (Hb < 7g/dl), severe blood loss at admission, known allergy to prostaglandin, scan showing thin or few endometrial echoes suggesting complete or incomplete miscarriage. The patients were admitted after diagnosis and consent. A detailed pelvic scan, Blood complete picture, blood grouping, hepatitis screening, fasting blood sugar levels and urine routine examination was advised to be done either on outdoor or indoor basis according to the choice of patient. Outdoor investigations were preferred in order to decrease hospital stay.

As soon as the patient was admitted 1st dose of misoprostal 400 microgram orally was given followed by 200 microgram 2 hourly. Single dose of broad spectrum antibiotics intravenously were given with the 1st dose of misoprostol. Any side effects like nausea, vomiting or abdominal pain ware noticed. If the patient c/o massive vaginal haemorrhage immediate vaginal examination was done and senior was called at once. Total of 88 patients completed 6 hours duration regime except 12 patients who expelled completely after 2nd dose. The subjected were provided combined acetaminophen/ codeine for analgesia and injection gravinat dimenhytrinate for vomiting. Heavy bleeding was defined as saturating more than one heavy pad in half an hour. A container was provided at bed side for any product of conception that the subject were able to retrieve.

No patient failed medical treatment. Two patients had D&C after 1st dose due to excessive vaginal bleeding.

The primary outcome measures were rate of complete abortion, E&C if incomplete expulsion after last dose, excessive vaginal bleeding and D&C if any.

At the end an ultrasound scan was repeated to confirm the expulsion completely and patient satisfaction was assessed by asking the following questions:

Would you try same treatment if you have another missed abortion?

Would you recommend the treatment to a friend or near family member?

For follow up oral antibiotic cover with Mefanemic acid was given for five days and revisit after one week.

Statistical Analysis: Data had been analyzed using SPSS version 10. Descriptive statistics were used to describe the data.

RESULTS

Between June 2005- Sep 2007, 100 patients with 1st trimester missed abortion was enrolled in the study. The demographic characteristics of the women can be seen in (table-1).

Out of 100 patients 97% women were considered to have had a successful termination, while 3% women required dilatation and curettage. All 67% patients had aborted or expelled completely at the end of dosage regime and did not required any type of surgical intervention thirty (30%) patients expelled incompletely so were taken for evacuation and curettage. Excessive vaginal bleeding occurred in only 3% patients after which, patient were taken for emergency D&C. Mean miscarriage time was 7.6 hrs.

No patient failed to respond to medical treatment. Out of 100 patients, 10% patients were with the history of previous 1 caesarean section and 4% patients had 2 caesarean sections. All of them expelled completely and successfully without any complications.

The gestational age of those who expelled completely/incompletely is given in (table-2).

The side effects experienced by the patients are shown in (table-3).

Figure shows a complete and intact gestational sac that was expelled by one of the patients and she did not need any surgical procedure.

DISCUSSION

Obstetricians & gynaecologists have recently been challenged to rethink their approach to miscarriage. The doctrine of prompt surgical evacuation has been challenged by small number of studies, but the high success rate in the medical therapeutic miscarriage had made to think about non surgical treatment world wide.

Table-1: Demographic characteristics of study population

Mean Maternal age (Yrs)	28.25 yrs
Mean Gestational Age (wks)	9.9 wks
Mean parity	4
Primigravida	10 (10%)
Multigravida	90 (90%)
Previous ulcer scan	18 (18%)

Table-2. Type of miscarriage according to gestational age. (n=97)

Types of miscarriage	Gestational Age	
	<10wks	> 10 wks
Incomplete	18	12
Complete	43	24

Table 3. Side effects experienced by patients (n=100)

	Total No. of patients	%
Hg	5	5%
Cramps	3	3%
Diarrhoea	5	5%
Nausea	6	6%
Post operative comp	Nil	0%

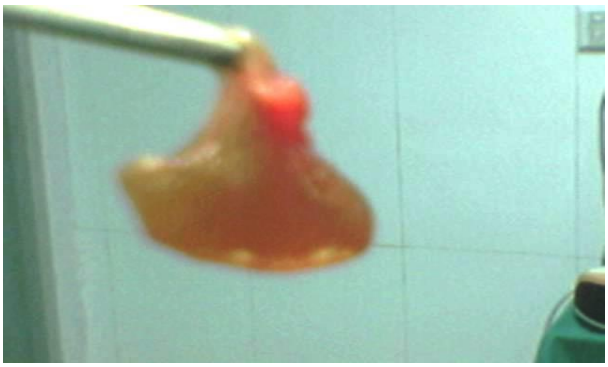

Fig: complete expulsion of embryo with sac.

A variety of medical and surgical techniques have been used for termination of missed abortion [6, 7]. These methods include intravenous infusion of oxytocin, intrauterine instillation of abortifacients, extra uterine instillation of abortificients, dilatation and evacuation. In 2006, the miscarriage treatment trial was undertaken to ascertain whether a clinically important difference exists in the incidence of gynaecological infection between surgical and expectant or medical management of miscarriage. Twelve hundred women of less than 13 weeks' gestation, with a diagnosis of early fetal demise or incomplete miscarriage were included. The conclusion of this study was that the incidence of gynaecological infection after surgical, expectant, and medical management

of first trimester miscarriage is low (2-3%) and no evidence exists of a difference by the method used [8]. Khan et al in 2004 studied the pharmacokinetics of misoprostol. They determined that vaginal misoprostol was present. in circulation longer than oral misoprostol. Rectal misoprostol had a significantly greater peak plasma concentration and a shorter duration to maximum concentration than either rectal or vaginal misoprostol [8]

In North Americal, medical treatment was done with methotrexate injections but later on was unacceptable due to the side effects. Safety and cost are paramount importance whenever we prescribe any drug. The safety of prostaglandin E2; either for termination of pregnancy or for induction of labour was demonstrated in many earlier studies [9, 10]. However it is by no means cheap. The other alternative misoprostol, apart from being much less expensive, is also widely available. Misoprostol has come up as an agent which is safe, convenient and has proven successful in medical terminations. For the last few years different dosage regimens of misoprostol has been tried by different clinicians in different part of world as vaginal, oral & sublingual administrations. Trial has found success rates ranging from 20%--80%. So misoprostol is an option like other medical agents as mifepristone. RU- 486 is also available but it is expensive & inadequate trials are available.

Our study has demonstrated that by using oral misoprostol 1000 microgram in 6hrs (4 divided) doses, we can safely & successfully treat 1st trimester missed miscarriage with minimal surgical intervention. Patients also consider it convenient and cost effective. The regimen we used was acceptable to both consumers and providers. We suggest further comparative studies for different dosage & schedule to shorten the treatment duration & intervention rate.

CONCLUSION

Medical management of missed abortion is effective, reduces the need of D&C, and is associated with high level of patient satisfaction.

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