A Study of Efficacy of Misoprostol in Missed Abortion

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Abstract

Background: Missed abortion is a common emergency where uterine evacuation is performed by surgical means.

Method: A total of 30 patients were included in this study to evaluate the efficacy of tablet misoprostol for uterine evacuation in cases of missed abortion. The gestational age ranged from 8-22 weeks. 21 out of 30 patients were primigravidae and the rest multigravidae. Tablet misoprostol (200mcg) was applied vaginally in the posterior fornix every eight hours to a maximum of five tablets. Success rate, complications and side effects were the main outcome measures.

Results: The procedure was successful in all cases. Two out of 30 cases required check curettage. Gastrointestinal side effects like vomiting and diarrhoea were seen in few cases.

Conclusion: The use of tablet misoprostol is effective for uterine evacuation in cases of missed abortion.

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Key Words: Misoprostol; Missed abortion

Introduction

Missed abortions are common and represent a significant gynaecological emergency workload [1]. The conventional method of uterus evacuation by vacuum aspiration is associated with morbidity and mortality [2-4]. The search for a non-invasive method with high success rate and patient acceptability has led to the use of prostaglandins in varied conditions [5]. This study was done to evaluate the efficacy of tablet misoprostol (prostaglandin E1 analogue) for evacuation of the uterus in cases of missed abortion.

Material and Methods

A total of 30 patients diagnosed as cases of missed abortion on ultrasonography (USG) were included in the study. An empty gestational sac, absence of foetal heart activity, foetal movements and change in the size of gestational sac were the selection criteria. Gestational age was confirmed by abdominal and per vaginal examinations. Complete haemogram, platelet count, blood group and urine routine examination was done for all the patients. All the patients were hospitalised and informed consent taken. Tablet misoprostol (200mcg) was applied vaginally in the posterior fornix and repeated after eight hours for a maximum of five tablets. Patients were given normal diet and ambulated during the procedure. On completion of abortion, the products were sent for histopathological examination. Those who failed to abort after 40 hours were deemed as failures. Successful treatment criteria were an empty uterus on USG and absence of bleeding after two weeks. Check curettage was done in cases of irregular vaginal bleeding after two weeks, passage of clots or retained products of conception on repeat USG.

Success rate, incidence of incomplete evacuation, induction abortion interval (IAI), side effects and complications were the outcome parameters studied.

Results

The details of gestation age are given in Table 1. All 30 cases aborted within 40 hours. On an average two tablets of misoprostol were required for completion of abortion. The average IAI was 13 hours (Table 2). Repeat USG revealed retained products in two cases which required curettage. The details of side effects are given in Table 3. Bleeding lasted for less than four days in 11, for 5-6 days in nine and for 7-8 days in eight patients. None passed clots. Two patients had irregular vaginal bleeding after two weeks with retained products on USG, of which one patient was less than eight weeks and the other less than eleven weeks of gestation.

Discussion

Missed abortion is defined as interruption of the pregnancy before the age of viability where the embryo/foetus is retained inside the uterine cavity for a variable period of time [2,3,6]. Misoprostol, an prostaglandin PGE1 analogue has cervical ripening and uterotonic properties thus making it a useful drug in obstetrics [5,7].

This method of uterine evacuation reduces the morbidity associated with surgical intervention. Graziosi et al [4] reported a success rate of 60% using 800 microgram/day of misoprostol without any complications. Gronlund et al [6], used 400 microgram of misoprostol, alone or in combination with mifepristone and concluded that misoprostol alone is effective in most and addition of mifepristone does not increase the success rate.

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Table 1**Period of gestation at the time of abortion**

Period of gestation	Primigravida	Multigravida
< 8 weeks	8	2
8 - 12 weeks	11	5
12 - 16 weeks	-	1
> 16 weeks	2	1

Table 2**Induction abortion interval (IAI)**

	Number	%
< 8 hours	4	13.3
8 - 16 hours	21	70.0
16-24 hours	4	13.3
> 24 hours	1	3.4

Table 3**Side effects of the procedure**

Side effects	Number	%
Vomiting	2	6.7
Diarrhoea	1	3.3
Fever	3	10.0
Abdominal pain	5	16.6

Ayres-de-Campos et al [9], used 600 microgram of misoprostol and found it safe and effective for inducing complete evacuation in missed abortions. The comparison of results and side effects with other studies is shown in Table 4 and 5. We conclude that management of missed abortion using tablet misoprostol is an effective alternative to surgical evacuation with high success rate.

Table 4**Comparison of results**

Particulars	Dosage	Route	Success	IAI
Ramsey et al [2]	400 mcg/4 hourly, 5 doses	Vaginally	95%	12 hours
Pongsatha et al [8]	400 mcg, single dose	Orally	84.1%	13.2 hours
Gronlund et al [6]	400 mcg, single dose	Vaginally	71%	
Graziosi et al [4]	800 mcg/day, 2 doses	Vaginally	60%	
Ayres et al [9]	600 mcg/4 hourly, 2 doses	Vaginally	57%	
Present study	200 mcg/8 hourly, 5 doses	Vaginally	100%	13 hours

Table 5**Comparison of complications**

Particulars	Vomiting	Diarrhoea	Fever	Abdominal pain	Retained products
Ramsey et al [2]	2%	3%	67%	-	2%
Pongsatha et al [8]	-	-	33.3%	38%	-
Graziosi et al [4]	-	-	-	42%	47%
Ayres et al [9]	5%	6.8%	6%	-	14%
Present study	6.7%	3.3%	10%	16.7%	6.7%

Conflicts of Interest

None identified

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