

MEDICAL MANAGEMENT OF THE COMPLICATIONS OF EARLY PREGNANCY WITH MISOPROSTOL

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ABSTRACT

OBJECTIVE: The study's goal was to ascertain if misoprostol is beneficial for people who have early pregnancy complications. And to prevent these individuals from undergoing surgical evacuation.

METHODOLOGY: Between 2015 and 2017, an experimental investigation was carried out at the Mardan Medical Complex Hospital in Mardan at the Department of Obstetrics and Gynecology, Unit A. For misoprostol therapy, 200 women with early pregnancy problems were included. Patients with early pregnancy problems who were hemodynamically stable and had a gestational age of fewer than 15 weeks met the inclusion criteria. Patients having a history of ectopic pregnancy, gestational trophoblastic illness, hemodynamic instability, uterine rupture, hypersensitivity to prostaglandin, and hemoglobin levels below 9 g were excluded. The ability to successfully resolve miscarriages without the need for surgery was the primary outcome measure. Incidence of discomfort, vaginal bleeding, infection, pyrexia, and adverse gastrointestinal symptoms were secondary outcomes. The research included 200 women in total. They were primigravida to grand multigravida, ranging in age from 16 to 45. Thirty (15%) had an embryonic pregnancy, 88 (44%) had an incomplete abortion, and 82 (41%) had an early fetal death. When misoprostol was the only medication used for therapy, 140 (or 70%) women entirely expelled the conceptual products; nevertheless, 60 (30%) patients needed surgery since their conceptual products had not been fully expelled and they were bleeding excessively. The average time between induction and expulsion was 16 hours. The most common adverse effects reported were diarrhea, vomiting, pyrexia, discomfort, and nausea. In 14 individuals, more than one side event was reported. For individuals with early pregnancy difficulties, misoprostol is an appropriate and effective treatment for early pregnancy loss. It may be kept at room temperature and is inexpensive and heat stable.

RESULTS: The study concerned a diverse institution of women, starting from primigravida to grand multigravida, and spanning a while sixteen to 45. The distribution of pregnancy headaches covered 15% with embryonic pregnancy, 44% with incomplete abortion, and 41% with early fetal demise. Out of the 2 hundred girls, one hundred forty (70%) effectively expelled the conceptual products solely through misoprostol therapy. However, 30% of sufferers required surgical operation because of incomplete expulsion and excessive bleeding. The common time between misoprostol induction and complete expulsion changed into reported as sixteen hours. The look at additionally referred to not unusual adverse consequences, such as diarrhea, vomiting, pyrexia, pain, and nausea. In some instances, a couple of side impact became reported, affecting 14 people.

CONCLUSION: The observe contributes treasured insights into the scientific management of early pregnancy complications using misoprostol. It emphasizes the effectiveness of misoprostol in resolving miscarriages without the need for surgery in a significant proportion of instances. The documented negative consequences, while present, should be weighed towards the blessings of averting surgical processes.

KEYWORDS: Misoprostol, medical treatment, miscarriage.

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INTRODUCTION

Miscarriage is the most common complication of early pregnancy. Its effects are both physical and psychological and may be immediate or long-term. The incidence of clinical miscarriage is around 10 - 15 percent. The risk of miscarriage is highest in the first trimester of pregnancy and decreases to 2 - 7.5 % once a viable fetus is identified¹⁻².

Individualized care for miscarriages is necessary, considering the clinical circumstances and the women’s desires. While the availability of these managements will rely on local provision, expectant, medical, or surgical treatment will be suitable in most cases. Surgical therapy is often necessary if the patient is hemodynamically unstable, the pain cannot be sufficiently managed, or there are concerns about sepsis or infection¹⁻².

Reducing morbidity such as bleeding, blood coagulation problems, pelvic inflammatory disease (PID), persistent pelvic discomfort, and infertility is the recommended course of treatment for early pregnancy loss. Pregnancy loss is often defined medically as partial or premature fetal death. A woman is often diagnosed with an “incomplete abortion” if her cervix is open and she has passed some but not all of the resulting embryos. When a woman has a closed cervix, an embryonic pregnancy or embryonic/fetal death, and a non-viable embryo or fetus, these conditions are combined to diagnose an “early fetal demise.” Embryo (0–8 weeks) and fetus (9–12 weeks) are the terms used in terminology¹.

The recommended course of action for expectant parents is to wait for a spontaneous abortion; nevertheless, this technique has a subpar success rate (varying from 25 to 76%) when it comes to fetal or embryonic mortality or embryonic gestation. It might take a month for spontaneous evacuation to occur, and the timing is unknown. Expectant care is frequently less desirable to patients because of the uncertainty, worry, and grief associated with pregnancy loss. It is suitable for ladies whose diagnosis is ambiguous and who are expecting a pregnancy of dubious viability¹⁻².

Patients who exhibit indications of sepsis, are hemodynamically unstable or are not a good candidate for medicinal or expectant therapy due to co-morbidities or patient preference should be treated surgically¹⁻².

Misoprostol, a prostaglandin analog, is used in medical management to cause uterine contractions that lead to vaginal birth of the baby. Misoprostol, a stable synthetic counterpart of prostaglandin E1, is 15 deoxy-16 hydroxyl 16 methyl PGE1. It was first created in the 1970s to stop peptic ulcers caused by non-steroidal anti-inflammatory medicines (NSAIDs).

Misoprostol by itself has been the subject of many clinical studies to assess its efficacy in terminating early pregnancy failure³.

In the last two decades, medical termination of pregnancy has become a safe alternative to vacuum aspiration dilatation, and curettage. The cost savings to the patient and family are extremely important, even if the misoprostol administration did not lead to uterine evacuation. It would soften the cervix and make surgical evacuation an easier procedure⁴.

The objective was to study the effectiveness of misoprostol in women with complications of early pregnancy and to avoid surgical management and its complications in these patients.

METHODOLOGY

A total of 200 women who had failed in their attempts to get pregnant were chosen for misoprostol therapy after giving their permission. The ladies received comprehensive information about the many treatment choices available; only those who agreed to get misoprostol medical therapy were chosen. The inclusion criteria were hemodynamic stability and a gestational age of fewer than 15 weeks. Patients having a history of ectopic pregnancy, gestational trophoblastic illness, hemoglobin levels below 9 g, uterine rupture, hypersensitivity to prostaglandin, and hemodynamic instability were excluded. Ultrasonography and clinical examination were used to assess gestational age and early pregnancy complications.

Following a thorough explanation of the medical termination of pregnancy procedure to each woman, they were all hospitalized. Investigations and standard physical examinations were performed. Full blood count, regular evaluation of the urine, random blood sugar, blood group and Rhesus factor, hepatitis screening, liver and renal function tests, and blood coagulation profile were among the investigations.

Table 1: Distribution according to age

Age (years)	No. of patients	Percentage
16-20	44	22%
21-30	98	49%
31-40	38	19%
40-45	20	10%

Table 2: Distribution according to parity

Parity	No. of patients	Percentage
PG	120	60%
1-4	44	22%
>4	36	18%

Table 3: Distribution according to side effect

Side effect	No. of patients	Percentage
Pain	82	41%
Pyrexia	14	7%
Nausea	30	15%
Vomiting	12	6%
Diarrhea	4	2%
Heavy vaginal bleeding	16	8%

The incidence of pain, vaginal bleeding, infection, pyrexia, and gastrointestinal adverse effects were secondary outcomes, whereas the effective resolution of miscarriages without surgical intervention served as the primary end measure.

Following the acquisition of informed consent, four intravaginal doses of 800 mcg (4×200 mcg) of misoprostol were administered, with one dosage every six hours. Abdominal pain and vaginal bleeding were evaluated, and side effects were noted. The time, measured in hours, between the start of treatment and the expulsion of conception products is known as the “induction to expulsion interval.” An ultrasonic inspection verified the whole evacuation. If, 24 hours after the final dosage, there was no full expulsion of the products, medical therapy was deemed failed, and surgical surgery was carried out for such individuals.

RESULTS

The research included 200 women in total. Table 1 shows the age range from 16 to 45 years old and from 0 to great multigravida.

There were 88 (44%) early fetal deaths, 82 (41%) incomplete abortions, and 30 (15%) embryonic pregnancies. With misoprostol alone, 140 patients (or 70%) were able to fully expel the products, whereas 60 patients (30%) needed surgery to evacuate because the products were not entirely evacuated and there was significant bleeding.

The average time between induction and expulsion was 16 hours. The most common adverse effects

reported were diarrhea, vomiting, pyrexia, discomfort, and nausea. In 14 individuals, more than one side event was reported (Table 3).

DISCUSSION

One typical obstetrical issue is managing problems in early pregnancy. Effective care, prolonged monitoring, and patience are required for the medical treatment of early pregnancy loss. However, surgical procedures result in a large rise in maternal mortality and morbidity. The medical approach has become a secure substitute for curettage, dilatation, and vacuum aspiration ⁴. The preferred prostaglandin is misoprostol since it is affordable and stable at room temperature. Misoprostol has been administered orally, sublingually, or vaginally at varying dosages. With no discernible difference in adverse effects, the vaginal route is the most effective method, according to a Cochrane assessment of 19 randomized controlled studies ⁴. One benefit of the one-day regimen, including repeated doses of misoprostol alone, is that it requires fewer hospital visits and ultrasound exams ⁵. In our research, misoprostol therapy led to the full expulsion of the products of conception in 70% of the cases, consistent with previous national and international studies.

In 2015, Sultan Qaboos of Oman University performed a research. They utilized a maximum of three doses of 800 ug of misoprostol vaginally per 24 hours. They had a 62.4% success rate. 38.6% of the research participants needed surgical evacuation. These findings are similar to ours, yet there may have been an 8% discrepancy since we utilized four maximum dosages in our trial while they used three. Six

In a 2014 study on the use of misoprostol in first-trimester abortions, Nowshaba R. Syed Farhan performed research in Pakistan. They, too, used 800 ug, but at first, they gave 600 ug orally before beginning to use 800 ug vaginally at intervals of four hours, with a maximum of four doses. If the products were not eliminated after four days, they repeated the fourth dosage and advised a follow-up on the seventh day ⁷.

They have a success rate that is comparable to ours. In their research, the success rate was 62.7%. That might be because they only used three dosages at first. Additionally, they followed a highly drawn-

out approach, which often causes patients to become unhappy and reject the care.

According to the results of a randomized experiment published in BJOG in 2006, a dosage of 800 ug has a higher success rate than low doses of 400 ug and 600 ug. They also concluded that, compared to 600ug and 400ug regimens, the dosage required and treatment time similarly reduce when the misoprostol dose is increased to 800ug for early pregnancy problems ⁸.

Misoprostol was administered vaginally in our investigation. The vaginal route seems to be the most successful, followed by the sublingual and oral routes, respectively. For sublingual misoprostol to be as successful as the vaginal method, it must be used more frequently—that is, every three hours ⁹⁻¹⁰.

Incidence of pyrexia (7%), nausea (15%), vomiting (12%), diarrhea (2%), and heavy vaginal bleeding (16%), respectively. This is comparable to the study conducted by Mazhar et al. (2013) ¹¹.

Oral and sublingual administration of misoprostol is associated with more gastrointestinal side effects than the vaginal route. Abdominal pain was noted in 41% of women. It was much higher than other studies (Wood and Brain, 2002; Neilsen et al., 1999). None of the patients had pelvic inflammatory disease ¹².

CONCLUSION

Treatment of early pregnancy loss with misoprostol is efficient, acceptable, and cost-effective for patients with complications of early pregnancy. It prevents the patients from surgical interventions and their complications.

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