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Original Research Article

# Vaginal Prostaglandin (Misoprostol) and 1st Trimester Termination of Pregnancy on Eugenic Ground

**Pankaj Bhushan[1], Shahnawaz Hasan[2]**

[1]Tutor, Department of Biochemistry, Jawaharlal Nehru Medical College and Hospital, Bhagalpur, Bihar
[2]Assistant Professor, Department of Biochemistry, Jawaharlal Nehru Medical College and Hospital, Bhagalpur, Bihar

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**Corresponding Author: Dr. Shahnawaz Hasan**
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**Abstract:**

In this research work the aim and objective was to evaluate the effect and efficacy of prostaglandin (misoprostol) in termination of pregnancy at early stages of gestational period starting from 6 weeks to 12 weeks (1st trimester). Now a days- safe method of medical termination of pregnancy has been employed using misoprostol either by oral or vaginal route. There is no need of surgical intervention and anaesthesia in most cases. Some cases failed for separation and expulsion of embryo even with maximum desired doses of misoprostol. These failed cases need minor surgical intervention and light anaesthesia because cervix was already dilated with the effect of misoprostol. This again explain why misoprostol is essential requisite for the safe MTP.

**Keywords:** Vaginalroute, Trimester, Misoprostol.



## Introduction

Medical termination of pregnancy with prostaglandin (mesoprostol) is safe. It causes easy cervical dilation, separation of the product of conception. The overall effect is proper and complete expulsion of product of conception. The molecule prostaglandin are eicosanoids biologicaly active molecule synthesized from eicosanoic acid (C 20 Poly Unsaturated Fatty Acid).

## Biochemistry of prostaglandin

Most eicosanoids are synthesized from archidonic acid a poly unsaturated fatty acid through two divergent pathways catalysed by two different enzyme systems- cyclooxygenase (COX) and lipooxygenase (LOPX). Prostagandins are synthesized by cyclooxygenase (COX) pathway.

## Mechanism of Action of Prostaglandin

Prostaglandins like other eicosanoids binds to their specific receptors on the cell surface to stimulate the trimeric proteins which activate membrane bound enzyme adenylate eyclase which in turn converts ATP to cyclic AMP activates the protein Kinase which derives forward the signal transduction events in the cell.

## Material and Methods

85 cases of pregnant women in search of MTP were selected. Pregnancy was confirmed by medical examination of pelvis, pregnancy test and ultrasonography.

A tablets of 200ug of misopostol (Misoprost) was inserted deep in the vagina at posterior fornix which was repeated 4 to 6 hour interval. Maximum doses of misoprost used over 24 hours are 4 tablets. The women was admitted in the hospital lying on the patient's bed. She was observed for side effects of prostaglandins and symptoms and signs of abortion by interval vaginal examination looking for vaginal discharge, bleeding, cervical dilatation and feel of product of conception if coming out of dilated cervix. Blood pressure of the patient should be monitored for i.v fluid replacement if indicated. That Pulse rate, respiration rate and complains of pain abdomen, vaginal bleeding and explosion of product of conception should be noted to confirm the complete abortion. Per speculum and vaginal examination were done. Sometimes ultrasonographic examination also needed.

Incomplete abortion in very small group of patients were managed by vaginal exploration under anesthesia. A little group of women who failed to abort or evacuate completely were managed by dilation and evacuation under anesthesia with i.v. fluid therapy. All patients subjected for the study were observed for at least 4 to 6 hours after complete abortion or surgical evacuation before discharge from the hospital. They were given injectable broad

spectrum antibiotic coverage like certriaxone + salbactum and aminoglycoside.

Theresultwithdifferentparametersofthepatientisshowninin Table-1.

**Result**

**Table 1: Results with different parameters of patients**

| SI. No. | Parameters of Patients | Result |
|---|---|---|
| 1 | Mean age (years) | 22.80±2.70 |
| 2 | Mean gravity | 2.5±1.05 |
| 3 | Mean Parity | 1.77±1.12 |
| 4 | Mean gestational age(weeks) | 9.2±1.45 |
| 5 | Mean dose of P.G (mesoprostol) in microgram(ug) | 4.01±2.10 |
| 6 | Induction–expulsion interval (Hours) | 7.9±2.2 |
| 7 | Complete abortion | 75cases(87.01%) |
| 8 | Incomplete abortion | 5cases(5.01%) |
| 9 | Failure | 5cases(5.01%) |
| 10 | Side effects (Nausea, vomiting) | 5cases(5.01%) |

Table 1 shows that 75 cases aborted completely and 5 cases incompletely with overall success rate 94.12%. The incomplete abortion of 5 cases were managed successfully by evacuation under light anesthesia because cervix was already dilated with the effect of prostaglandin. Those female patients who failed to evacuate were subject for surgical dilatation of cervix using different size of dilators, evacuation of product conception using ovum forceps. Lastly gentle curettage also done under proper anesthesia. The average induction abortion interval was 7.9±2.2 hours.

**Discussion and Conclusion**

The pregnant women who wants medical termination of pregnancy on eugenic ground were under consideration.

In these subjects the prostaglandins are required to initiate uterine contraction, smooth dilatation of cervix and expulsion of gestational sac. Our study shows that vaginal mesoprostol administration is very effective in such cases. This may be due to the effect of high level of vaginal mesoprostol which causes very smooth dilation of cervix as a whole extending from internal os to external os , separation of gestational sac from the uterine wall and contraction of uterine muscle. The net effect is expulsion of product of conception (embryo and placenta). Vaginal mesoprost is a safe, easy and effective method of terminating 1st trimester gestation. It is economic because complications due to surgical evacuation are avoided, expenditure of operation and anesthesia is prevented. The drawback of this method is incomplete abortion in some patient which may sometimes present with profuse bleeding. A little case of retained product of conception if left in uterus become infected and patient may come after some days with complains of vaginal bleeding and fever. This problem is overcome with final medical examination of patient before discharge from hospital. It is managed by surgical evacuation for incomplete abortion under coverage of anaesthesia.

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