



## APPLICATION OF CERVICAL DINOPROSTONE GEL BEFORE VAGINAL APPLICATION OF MISOPROSTOL FOR TERMINATION OF PREGNANCY IN INTRA UTERINE DEATH OF FOETUS FROM 18 TO 26 WEEKS OF GESTATION.

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### ABSTRACT

Intra uterine death is a common complication of pregnancy. The frequency of intrauterine death with retained foetus varies but it estimated to occur in 1% of all pregnancy<sup>1</sup> Induction by different pharmacological methods tried with varied success. The dose also varies according to period of gestation. We studied Forty cases of IUD between 18 to 26 weeks of gestation with dinoprostone gel plus and misoprostol tablet versus misoprostol tablet alone in Gujarat Adani Institute of Medical Science and Research (GAIMS) from 1st August 2016 to 31st July 2017. We studied following factors-

- 1) Success Rate
- 2) Induction/Delivery interval
- 3) Number of doses required, their cost effectiveness
- 4) Maternal complications

The forty patients were divided into two groups of twenty each, that is group A and group B. Comparison was done keeping the above parameter in mind and data was analysed. Pre application with Dianoprostone gel before application of misoprostol tablet is found to be superior to only misoprostol vaginal application.

**KEYWORDS :** Intra Uterine Death, Misoprostol, Dianoprostone, Induction of Labour

### INTRODUCTION:

Prostaglandin E1 and E2 both act on uterus in vivo whether pregnant or non pregnant<sup>2</sup>. Karim<sup>3</sup> introduced the use of prostaglandins (PG's) to induce labour. Misoprostol, a synthetic PGE<sup>1</sup> analogue, was commercialized in 1987 for antiulcer, antisecretory and cytoprotective effects. Misoprostol was also effective as cervical priming agent<sup>4</sup>. Lots of studies were done for Misoprostol and Dianoprostone gel for induction of labour individually but there is a paucity of study using both the agent simultaneously for highest success rate particularly in intra uterine death.

### MATERIAL AND METHODS:

This study was conducted in the department of Obstetrics and Gynaecology in Gujarat Adani Institute of Medical Sciences from 1<sup>st</sup> August, 2016 to 31<sup>st</sup> July 2017 (One year). The aims and objectives of this study are

1. To know the efficacy of vaginal misoprostol in induction of IUD foetuses.
2. To know the added advantage of application of Dianoprostone gel intra cervically before application of vaginal misoprostol.
3. To compare the end result of IUD from 18 to 26 weeks of gestation with vaginal misoprostol alone and pre ripening with dinoprostone gel before actual induction with misoprostol.

### INCLUSION CRITERIA:

1. All primigravida and multigravida with ultrasonographic diagnosis of Intra uterine foetal death.
2. Gestational age of 18-26 weeks of gestation.
3. With previous normal deliveries.

### EXCLUSION CRITERIA

1. Patient with previous uterine scar.
2. Patient with previous history sensitivity to prostaglandin.
3. Patient with known medical history of cardiac disease and bronchial asthma.

### STUDY DESIGN:

This is a prospective observational study where two groups of patients selected for induction of labour for intra uterine foetal death.

**Group 1:** Misoprostole tablet given vaginally according to FIGO guideline in a case of intra uterine death from 18 to 26 weeks of gestation.

**Group 2:** Dianoprostone gel introduced intra cervically 12 hours before proposed misoprostol followed by vaginal misoprostol application by FIGO Guideline in a case of Intra uterine death in 18 to 26 weeks of gestation.

### METHOD:

FIGO criteria for Misoprostol from 18 to 26 weeks<sup>5</sup> were followed with special recommendation of 2017 kept in mind. 100 microgram of misoprostol introduced vaginally 6 hours interval with maximum dose of four. Misoprostol is a very much cost effective drug for induction of labour<sup>6</sup>. Before the procedure blood investigation of CBC, VDRL, HBsAg, HIV test with Random blood sugar was done routinely. Gestational age was confirmed by Last menstrual period and supplemented by ultrasonography examination. Cervical status was assessed by vaginal examination before insertion of next dose or at the onset of uterine contraction. Paracetamol 500mg oral for fever (temperature  $\geq 100.4$ o F), and Ondansetron (10 mg) intravenous for vomiting was given. In the other group cervical installation of Dianoprostone was done prior to Misoprostol application.

### RESULT AND OBSERVATIONS:

40 cases of IUD (Table 1) between 18 to 26 weeks selected for this study. 20 patients (Group A) were given only Misoprostol according to FIGO criteria and another 20 cases (Group B) were given Dianoprostone gel six hours before starting misoprostol. Out of 40 cases 12 cases were primigravida, 21 cases were second gravid and 7 cases were third gravid (Table 2). Every effort was made to keep the uniformity of the cases.

Dianoprostone gel was introduced intra-cervically after patient passed urine in labour room. Misoprostol application was done after 6 hours. In significant number (70%) of cases expulsion was achieved after second dose of Misoprostol (Table 3). In contrast majority of expulsion (50%) occurred after the 3<sup>rd</sup> dose in Misoprostol only group (Table 4).

Success rate was 100% in the group A. In the group B we achieved expulsion 95% (19 cases out of 20).

No maternal complication noted in any of the group except mild nausea and vomiting in both the groups.

Average Induction delivery interval is 16-18 hours in both the groups. There was no significant difference in Induction delivery time in either group.

### DISCUSSION:

This study was conducted in Gujarat Adani Institute of Medical Sciences in the Department of Gynaecology. There were lots of literatures for using Dianoprostone alone or using misoprostol alone for induction of labour. Few studies were conducted in intra uterine death. It was also recommended that if initial 100 microgram not works then doses should be doubled<sup>7</sup>. We avoided the increasing dose. In both the groups the efficacy is satisfactory. In Dianoprostone group patient comfort and success rate found to be superior.

**CONCLUSION:**

Dinoprostone gel administration before use of Misoprostol tablet is a good option for induction of labour in case of Intra uterine foetal death. It give relatively more patient compliance and efficacy.

**Table 1 Distribution of cases for misoprostol alone and misoprostol with Dianoproston**

Total number of cases of IUD between 18 to 26 weeks- 40 (N=40)	
GroupA:Cases selected for only misoprostol	20 Number (50%)
GroupB:Cases selected for Dinoprostone before Misoprostol	20 Number (50%)

**Table 2 Distribution of gravida of total cases:**

Nature of the patients	Number	Percentage
Total numb	40	100
Primigravida	12	30%
Second Gravida	21	52.5%
Third Gravida	7	17.5%

**Table 3 Number of doses of Misoprostol required after application of Dianoproston for expulsion of foetus.**

No of dose	No of cases	Percentage
1 <sup>st</sup> dose	2	10%
2 <sup>nd</sup> dose	14	70%
3 <sup>rd</sup> dose	4	20%
4 <sup>th</sup> dose	0	0%

**Table 4 Number of Doses of Misoprostol required without Dinoprostone for expulsion of foetus.**

No of dose	No of cases	Percentage
1 <sup>st</sup> dose	7	0%
2 <sup>nd</sup> dose	2	10%
3 <sup>rd</sup> dose	10	50%
4 <sup>th</sup> dose	7	35%

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