



To study the indication of operative delivery at Tertiary Care Centre of Central India

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Abstract

Background: The study was conducted in the Department of Obstetrics and Gynecology, during one and half year (from January 2016 to June 2017). Biochemical examinations and Ultrasound studies were done in the respective departments of the same Hospital.

In this study, out of 100 patients there were 71 primigravida and 21 multigravidas. In the misoprostol group, out of 36 primigravida and 14 multigravida, 31 patients and 13 patients delivered vaginally with an average of successful delivery rate 88%. Only 12 % patient (6 in number) needed LSCS.

In control group 2a (Oxytocin n = 25) the result is similar like misoprostol group with a success rate of vaginal delivery 88% and only 12 % patient needed LSCS.

In control group 2b (PGE2 Gel n = 25) the successful vaginal rate is 72 % and LSCS rate is 28%

Keywords: Operative, Delivery & Indication.

Introduction

Cesarean delivery (CD) rates have risen rapidly globally^[1,2] with nearly 50% of the world. Expectant women and families consider safety of delivery critical in decision-making. Indian obstetricians experience tremendous pressure to produce a “perfect” baby. The relative safety of modes of delivery needs elucidation^[3].

In the past decade, our knowledge of the mechanism of labour has increased tremendously in addition, the ability to detect and manage antepartum maternal and fetal complications has greatly improved. As a result, induction of labour can be done in a rational & systematic manner.

It is important to note here that most pregnant women experience spontaneous onset of labour, however sometimes there is a need for induction of labour.

The birth of a first child is an important event in a woman's life. A positive delivery experience can result in a sense of accomplishment and feelings of self-worth and self-confidence. However, a negative delivery experience can result in detrimental consequences ranging from feelings of maternal distress to postpartum depression and even post-traumatic stress disorder

Study Designed: Comparative Study

Material & Method

The study was conducted in the Department of Obstetrics and Gynecology in Index Medical College Hospital & Research Centre, Indore, during one and half year (from January 2016 to June 2017). Biochemical examinations and Ultrasound studies were done in the respective departments of the same Hospital.

Inclusion criteria

1. Single live fetus.
2. Cephalic presentation.
3. Period of gestation: >36 - 42 weeks.
4. Bishop's score of >6
5. Healthy fetus
6. Mild PIH.
7. Premature rupture of membrane.

Exclusion criteria

1. Patients with medical disorders (Heart disease, Respiratory disorder Renal disease, etc.)
2. Cephalopelvic disproportion.
3. Patients with previous uterine scars.
4. Fetal distress.
5. Malpresentation.

The selected women in the study were put in 3 groups: -

Study Group (Group I): -Comprised of 50 patients on which induction was done by **Intravaginal Misoprostol**

Control Group (Group II): - Comprised of 50 patients which were subdivided into 2 groups-
Control group (2a) - 25 patients on which induction was done by

Intravenous Oxytocin

Control group (2b) - 25 patients on which induction was done by

Transcervical

Prostaglandin E2gel.

In all cases, a detailed history was taken and physical examination was done as per 'Proforma'.

Induction by Intravaginal Misoprostol (Group -I: Study Group)

Cases with history of heart disease, respiratory disorder, renal disease etc. were excluded. Vitals, FHS checked and Bishop score assessed. An initial dose of 25 µgm of misoprostol was applied in the posterior fornix. The dose was repeated every 3- 4 hourly until adequate uterine contractions (labour pain) were achieved (at least 3 contractions in 10 minutes and duration of each contraction of 40 seconds).

Induction was discontinued if any of the following condition was observed–

- a) Labour pain was not established within 12 hrs.
- b) Tachysystole > 5 contractions / 10 minutes without fetal heart changes.
- c) Hyperstimulation 5 contraction / 10 minutes with fetal distress

Control group (2a) -Induction by Intravenous Oxytocin infusion

The oxytocin infusion was started with a low dose - 2 mU/min. Then dose was escalated at 30-minute intervals, doubling the dose each time until a maximum of 32 mU/minute was achieved or regular contractions were occurring of adequate duration and frequency (3 contractions in 10 minutes and each contraction lasting for about 40 seconds). When labour started with desired uterine contractions, both in duration and frequency, the dose was maintained. After active phase of labour became well-established, progress of labour was monitored by cervicogram. Oxytocin drip was continued during delivery and at least 30-60 minutes in 4th stage. Failure to initiate the active phase of labour after 12 hours was called failed induction.

Control group (2b)- Induction by Transcervical Prostaglandin E2 gel

PGE2 transcervical gel was instilled with a 12 cm long & 3 cm thick nylon catheter under strict aseptic conditions. Care was taken to see that the nozzle does not go beyond the internal OS. The catheter was kept in situ for 2 minutes to decrease regurgitation. The patients were kept on labour

table for one hour following application of the gel. Blood pressure, pulse rate, respiratory rate, temperature, uterine activity & fetal heart rate were monitored every 15 minutes for one hour, then 30 minutes for two hours and then one hourly. The onset of the uterine contractions was noted from the zero hour. Contractions were considered to be optimum when 3 contractions occurred in 10 minutes, each lasting for at least 40 seconds.

After 12 hours - if there was no improvement of Bishop's score - another dose of PGE₂ gel was

instilled. A reassessment was done 6 hour after the repeat instillation and if there was no improvement in the Bishop's score- it was taken as failed induction.

In all 3 Groups, labour process and maternal & fetal condition were thoroughly monitored with the help of partogram till delivery and mother & neonate were observed till discharge from the Hospital.

At the end of the study, all the data were analyzed critically and were compared between different groups.

Observation & Results

Table No. 1: Mode of delivery

	Vaginal Delivery	LSCS	Multigravida (n=29)		Overall Incidence	
			Vaginal Delivery	LSCS	Vaginal Delivery	LSCS
Misoprostol (P=36,M=14)	31	5	13	1	44(88%)	6(12%)
Oxytocin Infusion (P=17,M=8)	15	2	7	1	22(88%)	3(12%)
Prostaglandin E ₂ gel (P=18,M=7)	13	5	5	2	18(72%)	7(28%)
Total	59	12	25	4	84%	16%

Vaginal delivery after induction with misoprostol was highest (88%), along with I.V oxytocin (88%) followed by prostaglandin E₂ gel 72%,

Table – 2 Success rate of inducing agents in different indication of induction

Indication of induction	Misoprostol		Oxytocin		Prostaglandin E ₂ Gel	
	Number (n=50)	Success (n=44)	Number (n=25)	Success (n=22)	Number (n=25)	Success (n=18)
Post-dated pregnancy	27	24 (88.89%)	11	10 (90.91%)	12	9(75%)
Pregnancy Induced Hypertension	12	11 (91.67%)	6	5 (83.33%)	6	4 (6.67%)
Premature rupture of membranes	9	7 (77.78%)	7	6 (85.71%)	5	3(60%)
Rh incompatibility	2	2(100%)	1	1(100%)	2	2(100%)

In this study success rate with misoprostol was highest in pregnancy induced hypertension followed by postdated pregnancy.

Discussion

A study in 2000 at university hospital of Puerto Real, Spain had success rate higher with induction with misoprostol group than PGE2 gel. Occurrence of failed induction was higher in PGE2 gel group.^[4]

In the year 2002 a randomized, double marked study on misoprostol vs low dose oxytocin for cervical ripening at university of Virginia school of medicine, Chafottemilley, USA Shows labour abnormalities where more common in oxytocin group than misoprostol group (26% Vs 16%)^[5]. Which is similar to my study, as LSCS rate was more in control group.

A double-blind comparison of the safety and efficacy of intra vaginal misoprostol and PGE2 gel to induce labour, studied

By dept. of O&G, University Hospital, Basel, Switzerland, 1997 has shown C.S rate was slightly more (12% Vs 14 %) in PGE2 gel group which is similar to my study^[6].

A study on Misoprostol Vs Oxytocin for labour induction in term and Post term pregnancy, RCT 2003 showed 25 micro gram misoprostol P/V every 4 hourly is safer and more efficient for Cervical ripening and labour induction than Oxytocin.^[7]

Conclusion

In this study, out of 100 patients there were 71 primigravida and 21 multigravidas. In the misoprostol group, out of 36 primigravida 14 multigravida 31 patients and 13 patients delivered vaginally with an average of successful delivery rate 88%. Only 12 % patient (6 in number) needed LSCS.

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