ORIGINAL RESEARCH PAPER
Volume-6 | Issue-11 | November-2017 | ISSN No 2277 - 8179 | IF : 4.176 | IC Value : 78.46
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

OUTCOME OF INDUCTION OF LABOUR IN POST DATED PREGNANCY

Obstetrics & Gynaecology

Dr.Vipul Darji 2nd year Resident, Department of Obstetrics & Gynaecology, Smt. N.H.L. Medical college & V.S. General Hospital, Ahmedabad.

Dr. A.C.Shah* Associate Professor, Department of Obstetrics & Gynaecology, Smt. N.H.L. Medical college & V.S. General Hospital, Ahmedabad. *Corresponding Author

ABSTRACT

This prospective clinical study was designed on Outcome of induction of labour in post dated pregnancy. A Randomized clinical trial was carried out at Department of obstetrics and gynaecology, V.S.General hospital Ahmedabad from august 2016 to july 2017.Sixty post dated pregnant patients, who were chosen for induction, were selected for this study. This study shows that the main method was oxytocin drip and second method was ARM + oxytocin drip, some cases induced by using oral prostaglandin and very few cases induced by intra cervical prostaglandin. 25 patients (65%) were induced by only oxytocin drip and failure rate was 32%, combined ARM and otytocin drip applied on 25 patient and failure rate was 20%. From this study, it was found that efficacy of combined ARM and oxytocin drip method is superior then the only oxytocin drip method. Therefore combined ARM and oxytocin drip method can be used for induction of labour in post dated pregnancy.

KEYWORDS

induction, postdate, ARM

Introduction:

Induction of labour in the post dated pregnancy is the process of initiating labour by artificial means. Now a day, this is an established obstetric practice when expectant mother herself or her fetus may face dangers within the uterus. Induction of labour should be considered any time after the age of viability. The principal concern is how to provide the most effective, easy to use, safest and less expensive way to terminate the post dated pregnancy. The success of induction in post dated pregnancy depends on the consistency, compliance and configuration of the cervix. Careful evaluation of the cervix is highly recommended before induction. When labour is induced in an low Bishop's score in post dated pregnancies is associated with higher than normal incidence of failure of induction, prolonged labour, instrumental delivery and Caesarean section(1). Induction of labour in post dated pregnancy can be accomplished mechanically or medically using hormones and thus increase the success rate of induction of labour. These include: (a) oxytocin, (b) prostaglandin, (c)amniotomy (2).

Intravenous administration of a very dilute solution of oxytocin is the most effective medical means of inducing labour. oxytocin exaggerates the inherent rhythmic pattern of uterine motility. Prostaglandin stimulates the myometrium, resulting in uterine contractions. Two forms prostaglandins are commonly used for induction : misoprostol (PGEI) and dinoprostone (PGE2). misoprostol use for cervical ripening and induction of labour is associated with enzymatic collagen degradation and increased water content in the cervical extracellular matrix .

Adventages of misoprostol may be the cost effectiveness, easy of administration and well tolerability, and most notably,its dual action in cervical ripening and labour induction (3). Dinoprostone applied locally can increase cervical compliance and dilatation . Amniotomy may be an effective way to induce labour in carefully selected cases with high Bishop Scores. Release of amniotic fluid shortens the muscle bundles of the myometrium; the strength and duration of the contractions are thereby increased and a more rapid contraction sequence follows. Amniotomy in selected cases, while slightly increasing the risk of infectious morbidity, could shorten the course of labour without increasing or reducing the incidence of operative delivery.

This study was designed to find out the outcome of induction of labour in post dated pregnancy in various methods. It was found that efficacy of combined ARM and oxytocin drip method is superior then the only oxytocin drip method.

Material and Methods:

This is a randomized clinical trial conducted in the Department of Obstetrics and Gynaecology, Smt. N.H.L. Medical College & V.S.General Hospital Ahmedabad during the period from august 2016 to july 2017. Purpose of the study and the methods of induction of the study, the risks, benefits and alternatives to induction in each case were explained to the patient and only those who agreed were finally selected. Labour induction in post dated pregnancy was performed only after appropriate assessment of the mother and foetus. The inclusion criteria were intact membrane,cephalic presentation, singleton pregnancies, low Bishop score in post dated pregnancies. Absolute contraindications to induction of labour include contracted pelvis, placenta previa, unexplained vaginal bleeding,presentation other than head and previous caesarean section were excluded from the study. Sixty post dated pregnant patients, who were chosen for induction, were selected for this study during the study period.

A formal scoring of the cervix was done by Bishop's scoring system before induction in post dated pregnancies. In the first group only oxytocin drip method was introduced. The dosage must be individualized. The administration of oxytocin is determine with a biologic assay; the smallest possible effective dose must be determined for each patient and then used to initiate and maintain labour, Constant observation by qualified attendants is required when this method is used .In most cases it is sufficient to add 2ml of oxytocin (10 units oxytocin to 1L of 5% dextrose in water [1 mU/ mL], and increase oxytocin in 2-mU increments at 15-minute intervals. When contractions lasting 40- 60 seconds (per the external monitor) occur at 2.5 to 4-minute intervals, the oxytocin dose should be increased no further. Oxytocin infusion is discontinued whenever hyper stimulation or fetal distress is identified. Misoprostol is manufactured in 25 microgram tablets that can be administered orally and vaginally every 4-6hours for a maximum of four doses.

Dinoprostone comes prepackaged in a single dose syringe containing 0.5 mg of PGE2 in 2.5 mL of a viscous gel of colloidal silicon dioxide in triacetin. The syringe is attached to a soft -plastic catheter is shielded to help prevent application above the internal cervical os. With dinoprostone, usually 12 hours should be allowed for cervical ripening, after which oxytocin induction should be started. PGE2 should not be used in patients with a history of asthma; glaucoma, or myocardial infarction.

Chorio-amnionitis, ruptured membranes are relative contraindications to the use of prostaglandins for induction.(4) Close monitoring of foetal heart rate and observation was done to detect hyper stimulation. Cervical score was reassessed after 4 hours. Before administration of subsequent doses of misoprostol, the patient's contraction frequency was evaluated manually. If the patient was having 1-3 contractions /10 minutes, she was observed for evidence of progressive cervical dilatation (at least 1cm / hour). If labour was progressing, then no more doses were given and labour was observed. But if cervix was not ripe after 6 hours, the dose was repeated 6 hourly. Partograph was maintained once the patient went into active lobour.

Results:

The results of this study are shown in the following tables.

Table -I: Details of the post dated pregnancy patients at Induction

Number of patients	Total-60	Percentage
Primigravida	33	55%
Multigravida	27	45%
Age (years)	Range-18-38 year	Mean 24.69 year

Table –I: In this study induction was trialed on 60 patients. Among them 33 patients were primigravida and 27 patients were multigravida. They were 18 to 38 year of age range.

Table II : Method applied for induction in post dated pregnancy.

Methods	Number of patients	Percentage
Oxytocin drip	25	41.66%
ARM + Oxytocin drip	25	41.66%
Misoprostol	7	11.66%
Dinoprostone	3	4.99%

Table -II shows that 25 patients (41.66%) were induced by only oxytocin drip and second method was ARM + oxytocin drip applied on 25 patient , some cases-7 patients (11.66%) were induced by using oral prostaglandin and very few cases- 3 patients (4.99%) were induced by intra cervical prostaglandin.

Table -III: Total number of case failed after induction in the post dated pregnancy.

Methods	Total number of patients	Total no. of failed induction	Percentage of failed induction
Oxytocin drip	25	8	32%
ARM+ Oxytocin drip	25	5	20%
Misoprostol	7	1	14.28%
Dinoprostone	3	0	00%

Table -III shows that 25 patients were induced by only oxytocin drip and failure rate was 32%, combined ARM and oxytocin drip applied on 25 patient and failure rate was 20%. 7 patients were induced by using oral prostaglandin and failure rate was 14.28% and very few cases- 3 patients were induced by intra cervical prostaglandin and failure rate was 00%

Table -lV: Mode of delivery after induction in post dated pregnancy.

Mode of delivery	Total no.	Percentage
Spontaneous vaginal delivery	39	64.99%
Delivery with the aid of forceps	2	3.33%
Delivery with the aid of ventouse	5	8.33%
Delivery by caesarean	14	23.33%

Table -IV shows that spontaneous vaginal delivery was 64.99 %, 11 .66 % assisted vaginal delivery. Among them Forceps covers 3.33 % and Ventouse covers 8.33%. 23.33% patients were delivered by Caesarean section.

Table -V: Indications of delivery by Caesarean section.

Indications	No. of patients	Percentage
Foetal distress	10	71.42%
Unfavourable cervix	3	21.42%
Hyper stimulation	1	7.14%

Table -V shows that 71.42 % Caesarean section was done for foetal distress, 21.42% for cervical distocia and 7.14% for hyper stimulation.

Table -VI: Foetal outcome in the post dated pregnancy after induction.

Foetal outcome	Total baby born	Percentage
Healthy baby	45	75%
Distress baby	13	21.66%
Still birth (IUD)	2	3.33%

Table -VI shows that Foetal outcome is good. Among them healthy baby was born 75%. 21.66% distress baby and 3.33% Still birth.

Discussion:

Most of the post dated pregnancy terminated by LSCS in developing country like India and this is to avoid risk of mother and foetus due to lack of monitoring facilities and the other technical problem. But with advanced technology, monitoring facilities and availability of newer drugs now a days post dated pregnancy can safely be terminated Vaginally either in the form of medical induction or combination of both. In this study, 60 post dated pregnant patients were selected by simple randomization. This study shows that the main method was oxytocin drip and second method was ARM + oxytocin drip, some cases induced by using oral prostaglandin and very few cases induced by intra cervical prostaglandin. Though prostaglandins are very effective in induction of labour in post dated pregnancy , still today most obstetricians believe that for routine induction of labour amniotomy and intravenous oxytocin is the method of choice, the eflicacy and safety of which is well known In the comparison study it is seen that the induction rate in primigravida is gradually increasing. In Dr.S. Jahan's (5) study in 1990 it is 40%, in Dr. Md. Zafinl Hassan's study in 1995, 50.77% and my study shows 55%. But in multigravida it is gradually decreasing 60%, in Dr. S. Jahan's study, 50% in Dr. Md. Zafirul Hassan's study and 45% in my study.

The mean age was 24.69 years. The youngest one is 18 years and highest aged patient was 38 years. Early teens or elderly mothers are very fewer in number in this study. It is completely an urban picture but particularly in the rural areas early teen mothers and grand multipara are a major part of reproductive mothers. 25 patients (65%,) were induced by only oxytocin drip and failure rate was 32%, combined ARM and oxytocin drip applied on 25 patient and failure rate was 20%. From this study, it was found that efficacy of combined ARM and oxytocin drip method is superior then the only oxytocin drip method. Therefore combined ARM and oxytocin drip method can be used for induction of labour in post dated pregnancy and this combined method is effective if the cervix is favourable (6). But Shepherd et al (7) have found local prostaglandin as simple, safe and highly acceptable to the patient and there has been a great reduction in the incidence of caesarean section due to failed induction.

In this study spontaneous vaginal delivery was 64.99 %, 11 .66 % assisted vaginal delivery. Among them Forceps covers 3.33 % and Ventouse covers 8.33%. 23.33% patients were delivered by caesarean section. But in Dr Md Zafirul Hassan's study caesarean section was carried out on 26.15%. Among them71.42 %. Caesarean section was done for foetal distress, 21.42% for cervical distocia and 7.14% for hyper stimulation. Caesarean section for foetal distress is more in this study due to foetal distress diagnosed only clinicali in absence of other facilities. In Dr Md Zafirul Hassan's (8) study uterine inertia is the major (47.06%) cause for caesarean section.

It is fact that the patient with cervical distocia are likely to have prolonged labour and with all its potential sequelae. So the incidence of caesarean section is also increased. Regarding foetal outcome, the overall result is good. Among them healthy baby was born 75%. 21.66% distress babies which were well after resuscitation in usual manner and after 5 minute Apgar Score was about 10 in all cases and 3.33% macerated still birlh due to intrauterine foetal death (IUD).

Conclusion:

This was a limited study on a small number of patients in a single centre which did not reflect the situation of the whole country. It is a routine practice in many centers of our country to terminate most of the post dated pregnancy by caesarean section due to limitations of foetal monitoring system and oxytocin titration. If we would have modern facilities regarding infusion and foetal monitoring system like automatic infusion pump, cardiotocography, foetal scalp blood pH study etc. Then caesarean section rate could be reduced. Induction of labour in the presence of a ripe cervix and favourable fetal presentation appears to carry little risk to mother or fetus. Through this study it has been seen that with all procedure applied (though have much limitations) The safe out come of mothers were 100% and that of baby was 96.66% and 3.33% Still birth due to IUD. It is suggested that for better outcome of induction of labour in post dated pregnancy, more stress should be given in case selection and monitoring system of the procedure going on.

References:

1. Rayburn WF. Clinical experience with a controlled release, prostaglandin E2 intravaginal insert in the USA. Br J Obstet Gynaecol 1997; 104(Suppl 15): 8-12.
2. Perry KG, Larman JE,May WL, Robinette LG Martin RW. Cervical ripening: a randomized comparison between intravaginal misoprostol and an intracervical balloon cather combined with intravaginal dinoprostone, Ar:l ,r Obstet Gynaecol 1998; 178: 1333-40.
3. Ozan H, Gurkan U, Volkan Y, Fk, Mphpara T Misoprostol in labour induction. J Obstet Gynaecol Res 2001 ; 27 ; 17 -20 .

4. Carol L. Archie, The Course & Conduct of normal labour & delivery, Current Diagnosis & Treatment Obstetrics & Gynaecology, 10th Edition Page, 203-211.
5. Jahan S ; Clinical study on Induction and outcome of labour Dhaka BCPS 1990.
6. Calende AA. The human Cervix In Pregnency and labour : a clinical perspective In: Ellwood DA, Anderson ABM, editors. The cervix in pregnancy and labour. Edinburgh: Churchill Livinghtone, 103-122.
7. Shephered JH Pearce Jmf, Sims CD. Induction of labour using prostaglandin, Br med J 1979, 2: 108-110.
8. Hassan Zafirul, A study on induction of labour, IPGMR, 1995.A