



COMPARATIVE STUDY OF PARTOGRAM OF SPONTANEOUS LABOUR WITH INDUCED LABOUR IN TERTIARY CARE CENTRE

Gynaecology

M . Hindumathi* Associate Prof Dept. of Obstetric & Gynecology Santhi Ram Medical college, Nandyal
*Corresponding Author

P.Sneha Assoc Prof, Dept. of Obstetric & Gynecology Santhi Ram Medical college, Nandyal

A. Saritha Dept. of Obstetric & Gynecology Santhi Ram Medical college, Nandyal

ABSTRACT

Introduction: Partogram is a simple reliable tool for graphically recording the progress of labour and monitoring the health of mother and fetus. It also serves as an early warning system and assists early decision making on intervention in labour. Labor is a dynamic phenomenon characterized by progressive increase in the frequency, intensity and duration of uterine contractions with progressive dilatation and effacement of the cervix along with the descent of the fetus through the birth canal. This physiological process many a time may lead to pathological one and failure to recognize this would result in prolonged labor with resultant increase in the morbidity and mortality of both the mother & fetus. Induction of labour is to achieve vaginal delivery by stimulating uterine contractions before the onset of labour. Generally, Induction of labour has merit as a therapeutic option when the benefits of expediting the delivery outweighs the risks of continuing the pregnancy. The benefits of Induction of labour must be weighed against the potential maternal and fetal risks associated with this procedure.

The objective of this study was to analyze the patterns of labour amongst spontaneous parturients and compare outcomes of induced parturient using a WHO modified partogram

AIMS AND OBJECTIVES

The main objectives of the study are:

1. To compare partogram of spontaneous and induced labour of term gravid women.
2. To evaluate maternal and perinatal outcome of spontaneous and induced labour of term gravid women.

METHODOLOGY: The present study "Comparative study of partogram of spontaneous and induced labour" is a clinical study involving 100 gravid women with term gestation admitted in department of OBSTETRICS AND GYNAECOLOGY labor room, Santhiram Medical College, Nandyal from year November 2016 to October 2018.

On admission to the labour room, the data was collected by an interview and clinical examination of the patients based on a prepared questionnaire (as in proforma) which also included the plotting of labour progression on a partogram

RESULTS: The mean gestational age in Group A was 40.03 + 0.89 weeks and in Group B was 39.89 + 0.88 weeks. The parity based distribution of cases shows that out of the total 50 cases under group A, 33(66%) cases are primigravida and 17(34%) cases are multigravida. In group B, 32(64%) cases are primigravida and 18(36%) cases are multigravida. Most of patients in spontaneous group delivered before the alert line. Compared to spontaneous group, more patients from induced group crossed the alert line i.e., group B, or the action line i.e., group C, this difference is found to be significant ($p=0.0323$). The mean duration of 1st stage in induction group is 10.76 + 5.414 while in the spontaneous group is 8.646 + 3.497 hrs. This finding was found to be statistically significant. The mean duration of 2nd stage in induction group is 22.087 + 13.7 mins while in spontaneous group is 19.75 + 13.78 mins, though the difference is not significant. The difference in rates of caesarean section or operative deliveries in induced and spontaneous groups is similar. Meconium staining was seen more in induced group than in spontaneous group, This association was found to be statistically significant.

Conclusion: There was no difference in maternal and neonatal outcome in both the groups. Since the size of the study was small and there is a paucity of information, more randomized control trials are required in this area.

KEYWORDS

Partogram, spontaneous labour, induced labour, maternal & fetal outcome

INTRODUCTION

Partogram is a simple reliable tool for graphically recording the progress of labour and monitoring the health of mother and fetus. It also serves as an early warning system and assists early decision making on intervention in labour¹.

Advantage of the partogram is to save the writing time against in hand. It gives all the necessary information on a single sheet of paper and it is easier to keep rather than making detailed notes at intervals. Records are straight and objective both nursing and medical staff can see at a glance the progress of the labour in each patient. This facilitates hand over formalities when staff changes duties. It is possible to estimate the expected time of delivery in case everything is normal. It also plays vital role to reduce the perinatal and maternal morbidity and mortality².

Labor is a dynamic phenomenon characterized by progressive increase in the frequency, intensity and duration of uterine contractions with progressive dilatation and effacement of the cervix along with the descent of the fetus through the birth canal. This physiological process many a time may lead to pathological one and failure to recognize this would result in prolonged labor with resultant increase in the morbidity and mortality of both the mother & fetus.

Obstructed labour is a common cause of maternal and neonatal morbidity and mortality worldwide³. Apart from graphic representation of the progress of the labour, the introduction of

partogram was an effort to decrease fetal and maternal death due to obstructed labour.

Cochrane review estimated that 97% of still birth and 98% of the neonatal death occur in less developed countries. Continuous monitoring of labor and provision of rapid care to deal with problems are most crucial for preventing adverse obstetric outcomes related to child birth.

The WHO introduced the 'modified' partograph in the year 2000. The latent phase was removed from the modified partograph to alleviate problems of confusing it with false labor and unnecessary interventions⁴.

The WHO partograph consists of three components:

- The foetal record,
- The record of the progress of labour,
- The maternal record.

Induction of labour, the technique of artificially stimulating uterine contractions prior to the natural onset of labour to achieve vaginal delivery of the fetoplacental unit, is one of the most common obstetric procedures performed in the world. When the cervix is closed and uneffaced, labour induction often commences with cervical ripening, a process that involves softening and dilatation of cervix.

The goal of Induction of labour is to achieve vaginal delivery by stimulating uterine contractions before the onset of labour⁵. Generally, Induction of labour has merit as a therapeutic option when the benefits of expediting the delivery outweighs the risks of continuing the pregnancy⁵. The benefits of Induction of labour must be weighed against the potential maternal and fetal risks associated with this procedure.

Prostaglandins are released during labor as a normal physiologic process. Hence attempted to study this agent in detail.

Prostaglandins have achieved considerable attention when used for induction in women with unfavourable cervix. Prostaglandins are considered to be directly involved in the initiation of labour. In term patients with an unfavourable cervix and an inactive myometrium, it seems logical to use prostaglandins to ripen the cervix or induce labour or both..

The objective of this study was to analyze the patterns of labour amongst spontaneous parturients and compare outcomes of induced parturient using a WHO modified partogram.(6)

AIMS AND OBJECTIVES:

The main objectives of the study are :

1. To compare partogram of spontaneous and induced labour of term gravid women.
2. To evaluate maternal and perinatal outcome of son of the curve by dystocia or inertia was not appreciated

METHODOLOGY:

The present study "Comparative study of partogram of spontaneous and induced labour" is a clinical study involving 100 gravid women with term gestation admitted in department of OBSTETRICS AND GYNAECOLOGY labor room, Santhiram Medical College, Nandyal from year November 2016 to October 2018.

The study was approved by the college Ethical committee size of sample: 100 cases of gravid women with term gestation satisfying inclusion and exclusion criteria.

METHOD OF COLLECTION:

The study received approval from the institutional ethics committee and all participants gave written and informed consent. One hundred pregnant women were selected at random and were divided into two equal group.

1. Labour induced with vaginal prostaglandin (misoprostol)
2. Active phase of spontaneous labour

On admission to the labour room, the data was collected by an interview and clinical examination of the patients based on a prepared questionnaire (as in proforma) which also included the plotting of labour progression on a partogram.

Selection of candidates was made using inclusion and exclusion criteria as follows

Inclusion criteria:

- Pregnant women with spontaneous and induced labour
- First stage of labour with cervical dilatation from > 4 cms
- Singleton pregnancy
- Cephalic presentation

Exclusion criteria:

- Antepartum hemorrhage
- Malpresentation
- Multiple gestation
- Cervical dilatation > 7 cms
- Premature labour less than 36 weeks
- Contracted pelvis

PROTOCOL OF INDUCTION WITH VAGINAL MISOPROSTOL:

Patients assigned to the intra-vaginal misoprostol group had 25 micrograms tablet inserted into the posterior fornix of the vagina. If the patient was not in adequate labour (fewer than 3 contractions in 10 minutes) and the Bishop score was <6, misoprostol administration was

repeated every 4 hours. The maximal dose of misoprostol was 150 micrograms (6 doses).

If labour did not ensue, even after 4 hours following last dose it was considered as failed induction and other methods of induction like oxytocin was tried.

Cervical examination was performed every four hours after starting induction and whenever clinically indicated.

RECORDING OF PROGRESS IN LABOUR:

The name, age, parity and hospital identification data were entered.

In all patients, the cervical status is assessed by using Bishop's score prior to induction and then after 6 hours of induction.

MODIFIED BISHOP SCORE

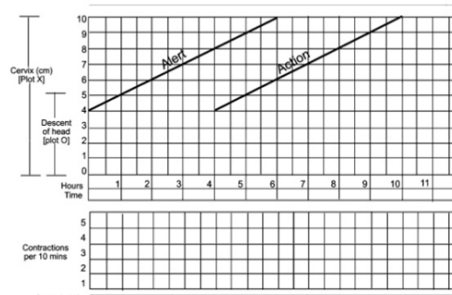
Maximum score is 10.

A score of more than 6 is a favorable score with a predictable outcome.

Foetal heart rate is recorded half hourly. The basal foetal heart rate, that is the rate between contractions is charted. The state of membrane was "I" if membranes were intact, "C" if membranes were ruptured and liquor clear, "M" if membranes were ruptured and liquor meconium stained. Moulding of head at initial examination and subsequent vaginal examination was noted and scoring was done as + or ++.

The most important measures of progress in labour, the rate of dilatation of the cervix and the rate of descent of the foetal presenting part, are recorded by plotting the cervical dilation on the vertical line 'x' axis on the left hand side of the graph in centimeters from 0 to 10 against the elapsed time which is plotted on the horizontal line 'y' axis in hours.

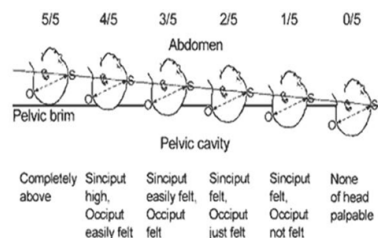
Progress of Labor



The admission time is taken as zero hours, and the dilatation at the initial examination is plotted on the dilatation curve. Cervical dilatation is represented by 'x'. The dilatation should be measured by vaginal examination four-hourly when the patient is in established labour and more frequently when necessary.

The level of the head was measured by abdominal palpation as the number of fifths of head above the pelvic brim. The head that is 5/5 above is entirely above the brim and the head that is 4/5 above is just entering the brim; when the head is 3/5 above the hands on abdominal palpation can still go partially round the head; when 2/5 above, the hands splay outwards because more than half of the head has entered the brim.

When 1/5 above, only the sinciput can be tipped abdominally and no fifth represents a head entirely in the pelvis with no sinciput or occiput palpable above the brim. The number of fifth was plotted on the cervicograph with a '0' using the lines 0 to 5 on the left hand side.



The uterine contractions were plotted on the graph below the cervicograph. The duration and frequency of contractions were

recoded in one-hour blocks. The strength of contractions was assessed based on perception of contraction intensity (none, mild moderate ,severe).

Episodes of uterine tachysystole defined as >5 contractions in 10 minutes or a single contraction lasting more than 2 minutes and FHR abnormalities (variable decelerations and bradycardia) were sought. The frequency was assessed by counting the number of contractions occurring during of contraction was measured in seconds and the number of blocks representing frequency were filled in by dots if the duration was less than 20 seconds, cross-hatched if less than 40 seconds and blocked out if more than 40 seconds.

Below this uterine contraction, on the graph, maternal temperature, pulse, BP were recorded. Urine examination for glucose, albumin and acetone (if indicated and done) were also recorded on the graph. The treatment given and the mode of delivery were illustrated on the graph. Every participant was observed for any side effect during and after delivery. Apgar scores of the baby were recorded at first and fifth minute. Any admission to NICU was also noted. The time of various stages, time from induction to delivery, route of delivery and failed induction were also recorded.

The graphs of all patients were analysed and were placed in one of the three categories

Group A patients who delivered before the partogram touched the alert line

Group B patients who delivered when the partogram lies between alert line and action line.

Group C Patients who delivered after action line was reached

The quantitative data, comparison was performed using chi-square test with Yates's correction, students 't' test and analysis of variance. Group averages were reported as mean $\pm$ standard deviation.

RESULTS:-

Table 1 :: Distribution of cases according to Gestational Age

G.A (in weeks& days)	GROUP-A (VAGINAL MISOPROSTOL)		GROUP-B SPONTANEOUS	
	N	%	n	%
37-40 wk 6 d	46	92%	47	94%
41-42 weeks	4	8%	3	6%
TOTAL	50	100%	50	100%
Mean GA weeks	40.03	39.89		

While analyzing period of gestation among group A and group B, maximum number of cases were between 37-40 weeks 6 days period of gestation, 46(92%) in Group A and 47(94%) in Group B out of 50(100%) cases in each group. Number of cases between 41-42 weeks were 4(8%) in Group A and 3(6%) in Group B.

The mean gestational age in Group A was 40.03 $\pm$ 0.89 weeks and in Group B was 39.89 $\pm$ 0.88 weeks.

Table 2 : Distribution of cases according to parity

Parity	GROUP-A (VAGINAL MISOPROSTOL)		GROUP-B SPONTANEOUS	
	n	%	n	%
Primi	33	66%	32	64%
Multi	17	34%	18	36%
TOTAL	50	100%	50	100%

The parity based distribution of cases shows that out of the total 50 cases under group A, 33(66%) cases are primigravida and 17(34%) cases are multigravida. In group B, 32(64%) cases are primigravida and 18(36%) cases are multigravida.

TABLE: 3 PHASE OF PARTOGRAM

	Induction	Spontaneous
group A	39	45
group B	9	4
group C	2	1

3 PHASE OF PARTOGRAM : Most of patients in spontaneous group delivered before the alert line. Compared to spontaneous group, more patients from induced group crossed the alert line i.e., group B, or the action line i.e., group C, this difference is found to be significant ($p=0.0323$).

TABLE-4: DURATION OF FIRST STAGE

First Stage Duration Hours	Induction	Spontaneous	T-test
0- 5	14	20	P=.042 significant
5-10	20	21	
10-15	4	7	
15-20	7	0	
20-25	1	0	
Mean(Hrs)	9.2 $\pm$ 6.9	9.6 $\pm$ 6.99	

The mean duration of 1st stage in induction group is 10.76 $\pm$ 5.414 while in the spontaneous group is 8.646 $\pm$ 3.497 hrs. This finding was found to be statistically significant.

TABLE-5: RATE OF CERVICAL DILATATION

	Induction	Spontaneous	T-test
0.6-1.0	12	10	P=0.147NS
1.1-1.5	17	20	
1.6-2.0	3	12	
2.1-2.5	9	6	
2.6-3.0	2	0	
3.1-3.5	3	0	
Mean (cms/hr)	1.39 $\pm$ 0.75	1.25 $\pm$ 0.47	

There was highly significant difference in the rate of cervical dilatation in the induction and spontaneous groups.

TABLE-6: DURATION OF SECOND STAGE

Second Stage Duration Minutes	Induction	Spontaneous	T-test
1-10	4	9	P=0.451 NS
11-20	13	12	
21-30	14	10	
31-40	8	12	
41-50	3	3	
51-60	4	2	
Mean	22.08 $\pm$ 13.7	19.75 $\pm$ 13.78	

The mean duration of 2nd stage in induction group is 22.087 $\pm$ 13.7mins while in spontaneous group is 19.75 $\pm$ 13.78 mins, though the difference is not significant.

TABLE-7: MODE OF DELIVERY

Mode of delivery	Induction	Spontaneous
Vaginal delivery	39(78%)	44(88%)
Outlet forceps	3(6%)	2(4%)
Cesarean section	4(8%)	2(4%)

The difference in rates of caesarean section or operative deliveries in induced and spontaneous groups is similar.

TABLE-8: LIQUOR CONSISTENCY

LIQUOR CONSISTENCY	Induction	Spontaneous	T-test
Clear	41(82%)	48(96%)	P=0.025 Significant

Meconium staining was seen more in induced group than in spontaneous group. This association was found to be statistically significant.

TABLE-9: INDICATION OF OPERATIVE DELIVERY

	Induction	Spontaneous
Fetal distress	3	2

Most common operative delivery was either outlet forceps aided vaginal delivery or caesarean section was fetal distress and there was no difference in induced and spontaneous groups.

TABLE-10: NEONATAL COMPLICATIONS

	Induction	Spontaneous
MAS	2	1
Asphyxia	4	2
Hyperbilirubinemia	2	1
Neonatal death	0	0

Neonatal complication – There was not much of difference in the incidence of various neonatal complications in the induced and spontaneous groups.

TABLE-11: MATERNAL COMPLICATIONS

MATERNAL COMPLICATIONS	Induction	Spontaneous
UT	1	0
Cervical Tear	3	1
Vagial Tear	1	2
PPH	2	1

Maternal complications– There was not much of difference in the incidence of various neonatal complications in the induced and spontaneous groups.

TABLE-12: APGAR Score

APGAR SCORE	Induction	Spontaneous
<7	2	0
7 to 8	6	6
>8	42	44

APGAR scores at 5mins were similar in both groups.

TABLE-13: COMPARISON OF DIFFERENT PARAMETERS OF PARTOGRAM

	Induced	Spontaneous
Slow cervical dilation	10	2
UT	1	0
Requirement of augmentation	38	0
Presence of MSL	9	2
Fetal distress	3	2
Outlet forceps	3	2
LSCS	4	2

TABLE-14: MODE OF DELIVERY IN RELATION TO ALERT LINE AND ACTION LINE

Induction Group

	Vaginal delivery	Outlet forceps	LSCS
A	36	0	0
B	6	1	2
C	1	2	2

Majority of patients in group A, i.e., left of alert line and group B, i.e., between alert and action lines delivered vaginally, majority of patients

in group C, i.e., right of action line had caesarean section.

TABLE-15: MODE OF DELIVERY IN RELATION TO ALERT LINE AND ACTION LINE

Spontaneous Group

	Vaginal delivery	Outlet forceps	LSCS
A	41	1	0
B	5	1	1
C	0	0	1

Majority of patients in group A, i.e., left of alert line and group B, i.e., between alert and action lines delivered vaginally, all the patients in group C, i.e., right of action line had caesarean section.

DISCUSSION:- DURATION OF FIRST STAGE

In the present study the mean duration of 1st stage in the induction group was more(9.2 hrs) compared to the spontaneous group (9.6hrs) which was found statistically significant.

According to Ramaswamy Vidya et al (7) 2011, Duration of First stage of labor increased in nullipara induction (8.7 vs 7.18 hrs) significantly.

	Ramaswamy Vidya et al,2011			Present study		
Parameters	Induced	Spontaneous	Significance	Induced	Spontaneous	significance
Nullipara	8.7	7.18	<.001VHS	9.2	9.6	P=0.042sig

According to Elizabeth Babin et al⁸, duration of the First stage of labor did not vary significantly in the induced and spontaneous groups (4.0±2.6 vs 4.3±2.8) (p>0.05).

	Elizabeth Babin et al			Present study		
Parameters	Induced	Spontaneous	Significance	Induced	Spontaneous	significance
Nullipara	8.7	7.18	<.001VHS	9.2	9.6	P=0.042sig

The increased duration in present study can be likely attributed to the lower bishop's score of induced group, since patients with good bishop's score progress faster without the requirement for induction.

DURATION OF SECOND STAGE

In present study mean duration of 2nd stage of labour in induction group was 22.08 mins and in spontaneous group was 19.75 min this was not statistically significant.

According to Ramasamy Vidya et al, 2011 duration of Second stage of labour increased significantly only in nullipara induction (49 vs. 33 min)

	Ramasamy vidya et al,2011			Present study		
Parameters	Induced	Spontaneous	Significance	Induced	Spontaneous	significance
Nullipara	49	33	<.013 sig	22.08	19.75	NS

According to Elizabeth Babin et al, Second stage of labour was not significantly different in spontaneous and control (29+34 Vs 30+33)(p>0.05)

	Elizabeth Babin et al			Present study		
Parameters	Induced	Spontaneous	Significance	Induced	Spontaneous	significance
Nullipara	29	30	NS	22.08	19.75	NS

Rate of Cervical dilatation

The rate of cervical dilatation was not significant in both the study groups (p=0.147), mean rate of cervical dilatation in the induction group was slower (1.39 cms/hr) compared to the spontaneous group

(1.24cms/hr).

Mode of Delivery

The risk of cesarean section in the induction is found to be about 8% and that of operative delivery to be about 6%, in spontaneous group the risk was found to be 4% and 4% respectively.

In a study conducted by Ramasamy vidya et al, 2011 it was found out the risk of cesarean section in primigravidae, induction group was significantly greater compared to other groups.

	Ramasamy vidya et al,2011		Present study	
Parameters	Induced	Spontaneous	Induced	Spontaneous
LSCS	44(29.3%)	21(14%)	4(8%)	2(4%)
Instrumental	4(2.6%)	2(1.3%)	(6%)	2(4%)

Indication: Various indications for operative delivery in the present study were Fetal distress, Arrest of dilatation, Arrest of Descent and failed induction. The most common indication being Fetal distress which occurred in 6% of induced labors and 4% of spontaneous labors. The incidence of Arrest of dilatation and Arrest of descent was similar in both the groups.

In a study conducted by Ramasamy vidya et al it was found that Fetal distress was the most common indication for operative delivery, followed by Arrest of descent and failed induction, Arrest of dilatation was the least common indication.

Another study by Yvonne W. Cheng et al⁹, 2001 showed that labor dystocia was the most common indication for cesarean section in both primigravida, and multigravida.

	Ramasamy vidya et al		Present study		Yvonne W. Cheng et al	
	Induced	Spontaneous	Induced	Spontaneous	Primigravidae Induction	Multi induction
Fetal distress	17	4	8(13.3%)	5(8.3%)	15.5%	27.3%
Arrest of descent	11	2	2(3.3%)	3(5%)	65.9%	68.2%
Arrest of dilatation	4	4	3(5%)	1(1.6%)		

The difference in significance in the present study could be due to the small size of the comparison groups.

The risks of LSCS in women with BS,5 after excluding birth wt>3.5kgs and maternal age >30 were not statistically higher in the induced group ($p>.05$) than spontaneous, proving that induction per se is not associated with LSCS. Only when associated with other risk factors risk of LSCS increase.

Liquor Consistency

In the present study highly significant association was found with meconium staining of liquor and induction ($p<0.025$) this was not associated in increase in meconium aspiration syndrome.

According to Elizabeth Babin et al, significant meconium was found in spontaneous group compared to the induction group (14% vs 4%) ($p=0.000$) According to Hofmeyr GJ et al¹⁰, there was an increase in meconium stained amniotic fluid following vaginal misoprostol (RR 1.38, 95% CI 1.06 to 1.79).

Maternal complications

Uterine tachysystole occurred in one patients of the induction group of which only one was associated with fetal heart changes. Three cases in induced group and one case in spontaneous group had cervical tear. One case in induced and two cases in spontaneous had vaginal tear, two cases in induced and one case in spontaneous group had PPH

According to Hofmeyr GJ et al, Vaginal misoprostol was associated with increased uterine hyper stimulation both without fetal rate

changes (RR 1.67, 95%CI 1.30 to 2.14) and with associated fetal heart rate changes (RR 1.45, 95%CI 1.04 to 2.04).

Neonatal complications

The neonatal complications considered in the present study were meconium aspiration syndrome, Asphyxia, Hyperbilirubinaemia and Neonatal death all of which needed NICU admission. Asphyxia, Hyperbilirubinaemia were similar in all the groups thus not significant. Meconium aspiration syndrome occurred in 4% of the induction group compared to 2% of the spontaneous group this association was not found to be statistically significant.

According to Bailit et al¹¹, 2010 incidence of Asphyxia was similar in both induced and spontaneous groups, ventilator use, Sepsis and NICU admission though was more in the spontaneous groups their association was not found to be significant.

According to Glaucia Virginia Guerra et al¹² elective induction among women with low-risk pregnancies was not significantly associated with an increased risk of most neonatal complications, including a low 5th minute Apgar score, low birth weight, admission to a NICU or early neonatal death.

According to Maternal and Neonatal Outcomes of Elective Induction of Labor¹³: A Systematic Review and Cost-Effectiveness Analysis (2008), There is evidence that meconium-stained amniotic fluid is present more often among women who have expectant management compared with those who have elective induction. However, the risk of meconium aspiration syndrome is not higher among infants of women who are managed expectantly.

APGAR

5 min APGAR scores according the present study were mostly above 8 in both the groups.

According to Yvonne W.Cheng et al 5min APGAR was found to be less than 7 in only 4.9% of primigravidae, induction group and 4.8% in multi induction group.

Mode of delivery in relation to alert and action lines

In the induced group majority of patients underwent normal vaginal delivery when their partographs were to the left of alert lines 36 (i.e 72%) no instrumental delivery and zero caesarean section. While in case between alert line and action line 6(12%) had vaginal delivery, 1 case had instrumental delivery and 2 (4%) had caesarean delivery. In cases which touched action line 1 case had normal vaginal delivery, 2 cases had instrumental delivery and 2 cases had caesarean delivery.

In the spontaneous group majority of patients underwent normal vaginal delivery when their partographs were to the left of alert lines i.e 41% (82%). Case between alert and action line 5(10%) cases had normal vaginal delivery, 1 (2%) case had instrumental delivery and one case had caesarean section. Of the patients undergoing caesarean section 1 (i.e 2%) was to the left of action line, and 1 patient (i.e 2%) was to the right of action line, reasons being foetal distress and arrest of dilatation.

There were not many studies that were conducted in this aspect, so comparison with other studies was difficult.

CONCLUSION :-

- Mean duration of first stage of labour was significantly longer in the spontaneous group.
- Mean duration of second stage of labour was not significantly different in both the groups.
- Rate of cervical dilatation is slower in the spontaneous group.
- Rate of cesarean sections in both groups was found to be similar.
- Meconium staining was found to be associated more with the induction group, but this was not associated with increased rates of meconium aspiration syndrome.
- There was no difference in maternal and neonatal outcome in both the groups.
- Since the size of the study was small and there is a paucity of

information, more randomized control trails are required in this area.

REFERENCES :-

1. WHO, World Bank Tokyo Development Learning Centre, Kitasato University School of Nursing, "Blended Learning on Partograph", 2010
2. Shirish N Daftary, Sudip Chakravarti, "Manual of Obstetrics", Reed Elsevier India PVT.LTD. New Delhi, 2005, 43(1). 286-287.
3. Carmen Dolea and Carla AbouZahr, "Global burden of obstructed labour in the year 2000", 2000, (1).
4. Yisma et al. Reproductive Health 2013, 10:23.
5. American College of Obstetrician and Gynecologists. Induction of Labour ACOG Practice Bulletin 107, 2009 Aug;114(1):386-397.
6. WHO. World Health Organization partograph in management of labour. The Lancet 1994; 343:1399-1404.
7. Ramswamy Vidya et al, Vol of obstetric and gynaecology of India. Dec 2011, vol 61, issue 6, pp 667-669.
8. Elizabet Babin et al, Elective induction in patients with clinically favourable services presented as paper presentation 413, AJOG.
9. Yvonne w. Cheng et al, Presented at the 68th Annual Meeting of the Pacific Coast Obstetrical and Gynecological Society, Ashland, Ore, October 3-7, 2001.
10. Hofmeyr GJ et al, Misoprostol for induction of labour: a systematic review: Br J Obstet Gynaecol. 1999 Aug; 106(8):798-803.
11. Bailit JL, et al. Maternal and neonatal outcomes by labor onset type and gestational age, Am J Obstet Gynecol 2010;202:245.e1-12.
12. Glauca Virginia Guerra et al, Elective induction versus spontaneous labour in Latin America, for the WHO Global Survey on Maternal & Perinatal Health in Latin America Study Group, Bulletin of the world Health Organization 2011;89:657-665. Doi: 10.2471/BLT.08.061126.
13. The review, Maternal and neonatal outcomes of Elective induction of Labor: A systematic review and Cost-Effectiveness analysis (2008).