International Journal of Clinical Obstetrics and Gynaecology

ISSN (P): 2522-6614 ISSN (E): 2522-6622 © Gynaecology Journal www.gynaecologyjournal.com 2020; 4(2): 123-129 Received: 01-01-2020 Accepted: 03-02-2020

Dr. Madhuri Gupta

DNB Junior Resident, Department of OBS and GYNAE, Dr. Ram Manohar Lohia Combined Hospital, Lucknow, Uttar Pradesh, India

Dr. Sandeepa Shrivastava

MS OBGY Senior Consultant, Dr. Ram Manohar Lohia Combined Hospital, Lucknow, Uttar Pradesh, India

Dr. Smita Rai

DNB OBGY, Senior Consultant, Dr. Ram Manohar Lohia Combined Hospital, Lucknow, Uttar Pradesh, India

Corresponding Author: Dr. Smita Rai DNB OBGY, Senior Consultant, Dr. Ram Manohar Lohia Combined Hospital, Lucknow, Uttar Pradesh, India

To study the maternal and fetal outcome in pregnancy beyond 40 weeks

Dr. Madhuri Gupta, Dr. Sandeepa Shrivastava and Dr. Smita Rai

DOI: https://doi.org/10.33545/gynae.2020.v4.i2c.513

Abstract

Background: Fetal, Neonatal and Maternal complications associated with pregnancy beyond 40 weeks have always been underestimated. However emerging evidence demonstrates that the incidence of complications increases after 40 weeks of gestation.

Aim: Present study aims to reliably monitor pregnancies until safe induction is given and appropriate delivery methods are identified that can avoid unnecessary caesarean sectional rate, in order to reduce maternal and perinatal complications.

Materials and Method: A prospective cross sectional study of 150 patients with uncomplicated prolonged pregnancy fulfilling the inclusion and exclusion criteria and admitted in department of obstetrics and gynaecology at a tertiary care hospital.

Results: Various complications in neonates were found with proportions 25.3%,1.3%,4.0%,12.7%,3.3% and 26.7% for Resuscitation, Birth Asphyxia, MAS, Post maturity signs, Birth injury and NICU admission respectively. Patients who have gestational age of 40 wks can be successfully followed till 41 week while women more than 41 week do require induction or LSCS or went into spontaneous during follow up with MBPP. Maximum proportion of spontaneous delivery was found in the gestational age 41-42 week (44.6%), maximum induced delivery was found in the gestational age 40-41 week (41.5%) and maximum LSCS was found in the gestational age 41-42week (32.1%). No significant association was found between GA and weight of new born.

Conclusion: With Regular antenatal check-up, incidence of postdate pregnancy can be decreased and it is important because of definite risk to fetus as pregnancy continuing beyond 40 weeks of gestation is associated with increased perinatal morbidity and mortality especially those who do not come for regular antenatal check-up.

Keywords: Neonatal outcome, prolonged pregnancy, perinatal morbidity, ultrasound

Introduction

The American College of Obstetricians and Gynecologists (ACOG) and the Society for Maternal-Fetal Medicine (SMFM) explains a full-term pregnancy as a pregnancy that lasts between 39 weeks, 0 days and 40 weeks 6 days. This indicated that pregnancy lasts between One week before due date and 1 week after due date. Babies born full term have the considerable better possibility of being healthy, compared with babies born earlier or later.

ACOG and SMFM use these definitions to describe term pregnancies:

Early term: Between 37 weeks, 0 days and 38 weeks, 6 days.

Full term: Between 39 weeks, 0 days and 40 weeks, 6 days.

Late term: Between 41 weeks, 0 days and 41 weeks, 6 days.

Post term: After 42 weeks, 0 days.

Previously it was believed that a pregnancy that lasted anywhere between 37 to 42 weeks was known as term pregnancy. It was believed once that this 5-week period was a safe time for most babies to be born. In 2013, the terms pregnancy definitions were updated by ACOG and SMFM, as research shows that baby health matters every week of pregnancies. In last weeks of pregnancy, babies continue to develop and organs like brain and lungs get maturity. At least 39 weeks of pregnancy give fetus the time to grow and develop ^[2-3].

Perinatal results were underestimated in post - term pregnancies, mainly due previous studies that were produced prior to the routine use of obstetrical ultrasound and as a result were likely to include many not truly post-term pregnancies. As noted above, the complication rate for pregnancies indicated after the designated term would be reduced artificially, and complication rates would increase over that designated term, which would reduce the difference between the

term and post - term pregnancy ^[5]. The reliability of EDD may be improved by ultrasonographic dating early in pregnancy. Ultrasound variation usually occurs in the range of \pm seven to 20 gestation weeks, in the range of 14 days from 20 to 30 gestational weeks and in the range of \pm 21 days beyond 30 gestational weeks (ACOG, 2004). Due to the lower percentage of errors, ultrasound in the first trimester seems to be highly accurate than ultrasound of the mid-trimester. Routine ultrasounds in the first trimester reduced incidence of post term pregnancy rates from 13% to 5% in comparison with ultrasound in the second trimester ^[6-7].

Post-term pregnancy is defined as 42 /07 week, or higher pregnancy. Post - term pregnancy is reported to be about 3 - 12 % ^[8-9] The true biological variation is less likely since a post - pregnancy diagnosis is most commonly due to incorrect datation ^[10-13]. Risk factors includes primiparity, post term pregnancy, fetal sex and genetic factors for the actual post - term pregnancy ^[14-18].

In infants that are born after a post term pregnancy, a number of key morbidities are greater and progress before and beyond 41 -07 weeks of gestation, including aspirations of meconium, neonatal academia, low levels of Apgar, macrosomia and birth injury. As postterm infants are large than term infants, they are more at risk for other complications due to a higher incidence of macrosomy [19-21]. Such fetal macrosomia-related fetal complications include prolonged labour, cephalopelvic disproportion and prolonged pregnancy, and an increased perinatal morbidity and mortality. The risk of fatalities, neonatal death and the risk of death in the first year of life are believed to be due to factors such as utero-placental insufficiency, meconium aspiration and intrauterine infection, prolonged labour, Cephalo-pelvic disproportion, shoulder dystocia, brachial plexus damage or cerebral palsy, Neonatal acidaemia, Low five-minute Apg, Neonatal encephalopathy, Neonatal seizures, Features of intrauterine growth restriction (IUGR) due to placental insufficiency. The maternal risk includes obstructed labor, perineal damage, vaginal instrument delivery, caesarean section, postpartial haemory and infections are related to prolonged pregnancy [22].

Some of the postpartum complications observed are Excessive uterine bleeding, Infectious complications, Postpartum endometritis and salpingitis, Pelvic abscess or peritonitis, Other infectious complications, Breast-related complications, Cracked nipples, Breast engorgement, Lymphangitis, Mastitis, Urine leakage, Psychological disorders, The baby blues", Postpartum depression, Postpartum psychosis.

Different maternal or foetal complications are linked to post term pregnancy (42 weeks or more). In pregnancies beyond 40 weeks, the safe induction time and induction mode must also be determined. Pregnancy beyond 40 weeks have been conducted in India but very few and limited studies have been carried out in Lucknow and few studies are there which shows spontaneous labor rate, induction rate, caesarean section rate separately between 40 to 41, 41 to 42 & beyond 42 weeks.

Present study aims to reliably monitor pregnancies until safe induction is given and appropriate delivery methods are identified that can avoid unnecessary caesarean sectional rate, in order to reduce maternal and perinatal complications.

Materials and Method

Present study Prospective was carried out in department of obs & gyne in Dr R M L Hospital Lucknow. Participants after understanding the study protocol and procedure gave their written consents for the study. After approval received from

Institutional Ethics Committee for this study, 150 patients in the age group of 18-44 yrs, 40 weeks or beyond 40 weeks of gestation was enrolled for the study. They were later divided into from 40 to 41, 41 to 42 & beyond 42 weeks of gestation for studying various variables.

Inclusion criteria

- Singleton pregnancy
- Cephalic Presentation
- Reliable dates with definite menstrual history with atleast 3 regular cycles before last period.
- USG before 20 weeks of gestation for reliable EDD.
- No recent use of oral contraceptives.
- Gestational age >40 weeks.
- Age group 18-44 years

Exclusion criteria

- Accurate dating by ultrasound missing
- Delivery by planned caesarean section
- Cases of fetal growth restriction
- Congenital malformations
- Chromosomal abnormalities
- Known obstetric complications Malpresentation, placenta previa, BOH, previous LSCS, twin pregnancy
- Medical complications like pre eclamptic toxaemia, diabetes &cardiac disease in pregnancy.

After reaching 40 weeks clinical examination, NST and ultrasound examination were carried out. Fetal presentation, position, maturity and amount of liquor were assessed. If there was any fetomaternal compromise or willness of the patient, induction were done. If all fetomaternal status are normal patient were followed upto 41 weeks by regular ultrasound, NST and modified biophysical profile twice a week.

After 41 weeks as per willingness of women and fetomaternal status (which was monitored again by NST and modified BPP), after regularly monitoring Bishop's score, induction was planned.

Some patients who were willing for spontaneous labour, fetomaternal surveillance by NST, ultrasound, and modified biophysical profile were followed upto 42 weeks and induction was planned thereafter.

Patients were induced by – single or multiple options were used.

- PGE2 gel 0.5mg inserted intravaginally or intracervically.
- Regular monitoring of vital parameters, uterine activity, FHR, PV findings and an NST was done.
- Gel was repeated after 6 hrs to 12 hrs in unfavourable cervix with poor Bishop's score.
- Low dose Misoprostol (preferably 25 microgram)
- Oxytocin according to cervix status.

Augmentation of labour was done by amniotomy and oxytocin was given as per need. The mode of delivery was decided as per fetomaternal status during progress of labour monitored by FHS & NST, colour of liquor. Baby's condition at birth, labour and outcome was studied. Maternal outcome in form of spontaneous labour, vaginal delivery, instrumental vaginal delivery and caesarean section was studied in all patients.

Fetal / peri natal outcome was evaluated which include

- Meconium Aspiration Syndrome (MAS)
- Meconium staining of amniotic fluid at labour (MSAF)
- Apgar Score at 1 and 5 minutes
- Macrosomia

Neonatal Intensive care unit (NICU) admission rate Variables to be studied.All selected outcome variables were recorded in the hospital and the findings were analyzed. Various observational findings was analyzed between 40 to 41, 41 to 42 and beyond 42 weeks of gestation, like spontaneous labor rate, induction rate, cesarean rate. Findings were analyzed with special emphasis on maternal and fetal outcome. Selected outcome variables will include the maternal age, parity, mode of delivery, Bishop's Scoring, maternal complications, neonatal morbidity, APGAR score and perinatal mortality and morbidity.

Results obtained were statistically analysed using chi square test to compare proportions of various categories between the groups. Student's t test was applied to compare quantitative variables and difference of changes. Univariate Logistic Regression Analysis was done to find simultaneous effects of explanatory variables and their interactions on final outcome. p<0.05 was considered statistically significant.

Results

Table 1: Distribution of Cases according to Gestational Age

Gestational Age	No.	%
40 - 41 wk	82	54.7
41 - 42 wk	56	37.3
>= 42 wk	12	8.0
Total	150	100.0

Table 2: Distribution of Cases according to Age

Age Group	No.	%
<= 20 yr	14	9.3
21 - 35 yr	128	85.3
> 35 yr	8	5.3
Total	150	100.0

Table 3: Distribution of Cases according to Mode of Delivery

Mode of delivery	No.	%
Spontaneous	66	44.0
Successful Induction	51	34.0
LSCS	33	22.0
Total	150	100.0

Table 4: Distribution of Cases according to Mode of Induction

Mode of Induction	Overall		Successful Mode of induction		
Mode of Induction	No.	%	No.	%	
PGE2 gel	49	64.5	34	69.4	
Oxytocin	16	21.1	9	56.3	
Misoprostol	11	14.5	8	72.7	
Total	76	100.0	51	67.1	

Table 5: Distribution of	Cases according to	Indication for LSCS

Indication for LSCS	No.	%
Fetal Distress	3	9.1
Failed Induction	25	75.8
CPD	4	12.1
Deep Transverse Arrest	1	3.0
Total	33	100.0

Table 6: Distribution of Cases according to Bishop Score

Bishop Score	No.	%
≤ 4	31	20.7
5-6	35	23.3
>6	84	56.0
Total	150	100.0

Table 7: Distribution of Cases according to Baby Birth Weight

Weight	No.	%
< 2.5 kg	4	2.7
2.5 kg - 3.49 kg	114	76.0
>= 3.5 kg*	32	21.3
Total	150	100.0

Table 8: Distribution of Cases according to Neonate Complication

Neonate Complication	No.	%
Resuscitation	38	25.3
Birth Asphyxia	2	1.3
Miconium Aspiration Syndrome	6	4.0
Post Maturity Signs	19	12.7
Birth Injury	5	3.3
NICU Admission	40	26.7

Table 9: Distribution of Cases according to Mother Outcome

Outcome - Mother	No.	%
Survived with complication	4	2.7
Survived with good condition	146	97.3
Total	150	100.0

Table 10: Distribution of Cases according to Baby Outcome

Outcome - Baby	No.	%
Not survived	5	3.3
Survived with complication	15	10.0
Survived with good condition	130	86.7
Total	150	100.0

Table 11: Association of Gestational Age with Dating with USG

Deting With USC	T	otal	Prolonged – Yes Prolonged - No		Perinatal Complication - Yes		Perinatal Complication - No			
Dating With USG	No.	%	No.	%	No.	%	No.	%	No.	%
Ist Trim USG	68	54.7	22	32.4	46	67.6	36	52.9	32	47.1
IInd Trim USG	82	37.3	54	65.9	28	34.1	74	90.2	8	9.8
Total	150	100.0	76	50.7	74	49.3	110	73.3	40	26.7
Significanc	e		chi sq = 16.		7, <i>p</i> <0.0	01	chi sq = 26.5, <i>p</i> <0.001			

Table 12: Multivariate Logistic Regression Analysis Showing Relationship of Mode of Delivery with Major Influencing Variables

Mode of delivery (Outcome)	Explanatory Variable		В	SE	p-value	Exp(B)
Induced	Intercept		-3.924	1.467	.007	
	Gestational Age	40 - 41 wk	084	1.112	.940	.919
		41 - 42 wk	1.572	1.166	.177	4.815
		> 42 wk	Ref.			
	Gravida	Primigravida	2.702	.838	.001	14.913
		Multigravida	Ref.			
	Bishop Score	≤ 4	22.050	2650.426	.993	Too Large
		5-6	5.360	1.093	.000	212.804
		>6	Ref.			
	Baby Gender	Male	542	.606	.371	.582
		Female	Ref.			
	Birth Weight	< 2.5 kg	-17.018	9116.185	.999	Too Small
		2.5 kg - 3.49 kg	.333	.725	.646	1.395
		>= 3.5 kg	Ref.			
LSCS	Intercept		-5.825	1.842	.002	
	Gestational Age	40 - 41 wk	-1.157	1.355	.393	.314
		41 - 42 wk	2.774	1.467	.059	16.016
		>42 wk	Ref.			
	Gravida	Primigravida	3.691	1.038	.000	40.091
		Multigravida	Ref.			
	Bishop Score	≤ 4	25.527	2650.426	.992	Too Large
		5-6	7.636	1.442	.000	2071.338
		>6	Ref.			
	Baby Gender	Male	-1.502	.783	.055	.223
		Female	Ref.			
	Birth Weight	< 2.5 kg	-16.540	0.000		Too Small
		2.5 kg - 3.49 kg	659	.902	.465	.517
		>= 3.5 kg	Ref.			

Ref: Spontaneous

Discussion

Of the total 150 women, a higher proportion (54.7%) were in 40 weeks – 41weeks group, followed by 37.3% in 41weeks - 42 weeks group and 8.0% in \geq 42 weeks group in this study. Our findings are comparable to the study by Kandalgaonkar *et al.* ^[23], majority 67 (69.8%) of the study participants were included in the group of gestational age of 40 week to 40+6 days, 26 (27.1%) patients had gestational age from 41 to 41+6 days, only 3 patients (3.1%) were more than 42 weeks. Similar results were also reported by studies done by Francis S *et al.* ^[24] and Patel N *et al.* ^[25] were maximum patients were between 40 to 40.6 weeks. Rani S *et al.* ^[26] observed that as gestation age advances from 37 to >42 weeks, rate of normal vaginal deliveries decreases and rate of instrumental vaginal deliveries and caesarean section increases.

In the present study out of the total 150 women, majority (85.3%) were in 21 – 35 years age group, followed by 9.3% in $\langle = 20 \rangle$ year age group, and 5.3% in \rangle 35 years age group. Similar findings have been reported by Kandalgaonkar *et al.*^[23]

Paliulytė V *et al.* ^[27], studied age distribution among pregnancy beyond 41 weeks of gestation and found no age relation. Mahapatro AK et al. ^[28] observed in their study on pregnancy beyond 41 weeks of gestation that 55% cases were in the age group of 21 to 25 years.

Akhar P *et al.* ^[29] observed in their study on pregnancy beyond 41 weeks of gestation that 82% of cases were in the age group of 18 to 29 years.15 In study by Dobariya PV *et al.* ^[30] there were 58 (69.05%) patients in age group 20 to 30 years, and in study by Patel N *et al.* ^[25] there were 32 (64%) cases in age group 20 to 30 years. It seems that there is no specific correlation with maternal age and postdated pregnancy and variability exists as evident by above studies.

Spontaneous delivery rate was 44.0%, delivery rate among induced women was 34% and cesarean section rate was 22.0% in the present study. Our findings are comparable to those reported by Kandalgaonkar *et al.* ^[23] where maximum patients (78.12%) underwent vaginal delivery, of which 45 (46.9%) delivered spontaneously and 35 (36.5%) delivered vaginally after successful induction.

Caughey AB *et al.* ^[31] studied that maximum patients (68%) underwent spontaneous vaginal delivery, 17% patients required instrumental delivery and 14% patient required primary caesarean section. Shinge N *et al.*, ^[32] studied that maximum patients (53.7%) underwent spontaneous vaginal delivery, 9.5% patients required instrumental delivery and 37% patients required caesarean section as mode of delivery.

Singh S *et al.* ^[33] observed that prevalence of post-dated pregnancy was 17.6% in their study. Among post-dated subjects LSCS rate was 56.50%.

Punya BS *et al.* ^[34] also reported that as the gestational age increased after 40 weeks, maternal morbidities increases and can lead to emergency LSCS, postpartum hemorrhage, and instrumental delivery.

In the present study out of total 76 women who were applied various modes of induction, PGE2 gel was used on 64.5% women with 69.4% success rate. Oxytocin was used on 21.1% women with 56.3% success rate. Misoprostol was used on 14.5% women with 72.7% success rate. Overall success rate was 67.1% while the maximum success rate was found for Misprostol. Failed induction was the most frequent indication of LSCS with 75.8% proportion, while CPD was the next to most frequent indication with 12.1% proportion. In the study by Kandalgaonkar *et al.*, maximum induction was done by Dinoprostone gel in 26 patients (57.78%) followed by

augmentation with Oxytocin Infusion after artificial rupture of membranes (ARM) in 15 patients (33.33%) and least by Tab. Misoprostol in 4 patients (8.89%). In the study conducted by Nikita Patel *et al.*, maximum induction by Tab Misoprostol 25 mcg in 12 patients (57.14%) followed by Dinoprostone PGE2 gel in 9 patients was observed.(42.85%). These findings are comparable to our study results.

In the present study, indication for caesarean section was failed induction in 25 patients (75.8%), fetal distress in 3 patients (9.1%), CPD in 4 cases (21.1%), deep transfers arrest in 1 patient (3%).

As per Caughey AB *et al.* ^[31] the incidence of caesarian section was 23.5% and 21.4% for fetal distress and CPD respectively.

As per Akhtar P *et al.* ^[29] caesarian section was done in 32% cases of fetal distress, 25.3% cases of non progress of labour and 24% cases in failure of induction.

In this study, 56% women had Bishop score more than 6, 23.3% women had Bishop score 5-6 and 20.7% women had Bishop score less than or equal to 4.

Poor Bishop's score is associated with failure of induction and lesser chances of vaginal delivery. In another study by Kandalgaonkar *et al.*, maximum patients had Bishop's score less than 4 and they needed further intervention by induction of labour by either Tab. Misoprostol or Dinoprostone gel or augmentation of labour by oxytocin infusion after artificial rupture of membranes (ARM). In patients with Bishop's score <4, maximum underwent caesarean section in view of failure of induction and fetal distress. Dakshnamurthy *et al.* ^[35] also showed that elective induction can be planned securely for 41 weeks after the pregnancy and Labor Induction, after 41weeks when the Bishop score increases as the pregnancy increases, is more sensitive to normal delivery.

This study revealed that 2.7% had birth weight < 2.5 kg, 76.0% had birth weight 2.5kg – 3.49 kg and 21.3% had birth weight more than or equal to 3.5 kg which is similar to the observations reported by Kandalgaonkar *et al.* where the majority 77 (80.2%) of the babies born weighed between 2.5 to 3.5 kg. Dakshnamurthy P *et al.* ^[35] observed a minimal increase (7%) in the incidence of babies with increased birth weight (>3.6kg) in the post-dated women at 41 weeks vs. 4% increase among 50 cases of post-dated women with labor induction at 40 weeks taken as controls.

In this study two cases of newborn having weight more than 4 kg in the gestational age group > 42 wk (16.7% in the particular age group and 1.3% overall).

Among all the 150 delivered babies, various complication were found with proportions 25.3%,1.3%,4%,12.7%, 3.3% and 26.7% for Resuscitation, Birth asphyxia, MAS, Post maturity signs, Birth injury and NICU admission respectively,

Perinatal complication includes mortality and morbidity both, fetal and neonatal mortality rates increases sharply after 40 weeks. Fetal morbidity increases beyond 41weeks of gestation, this includes passage of meconium, meconium aspiration syndrome, macrosomia and dysmaturity.

Prolonged pregnancy occur in 32.4% females in whom USG was done in 1st trimester, while prolonged pregnancy occur in 65.9% females in whom USG was done in 2nd trimester. Perinatal complication (including NICU admission, need for resuscitation, MAS, other complication) occur more in females who were dated in 2nd trimester.

Prolonged pregnancy and perinatal complication both are less when dating with USG done in first trimester.

As per Caughey *et al.* ^[31] prolonged pregnancy is less common in women dated before 12 weeks than between 12-24 weeks.

Better dating reveal greater difference in term of perinatal complication between term and post term.

In this study, in GA group 40-41 out of total females,42.67% who were followed with MBPP, 40% delivered before 1 week of follow up due to variable reasons of MBPP(low AFI, abnormal NST), out of these 50% underwent spontaneous labor,21.4% induced and 28.6% require LSCS. 60% of the patient in this GA group were successfully followed till 1 week and induced as per report of MBPP.

In GA group 41-42 week, out of 32.14 females who were followed with MBPP, 94.4% delivered before 1 week, out of these 17.6% induced, 29.7% went to spontaneous labor and 52.9% require LSCS. 5.55% patient successfully followed for 1 week and then induced.

In GA group >42 weeks 16.67% females followed with MBPP and out of these 50% induced and 50% went spontaneous labor.

Patients who have gestational age of 40 wks can be successfully followed till 41 week while women more than 41 week do require induction or LSCS or went into spontaneous during follow up with MBPP. Hence the appropriate time of induction in post-dated pregnancies is after 41 weeks.

Options for evaluation of fetal well-being include NST, MBPP, AFI estimation and combination of these. Post-dated pregnancy have more complications. At 41-42 weeks risk outweigh the benefits, so it is common to plan induction. In early age beginning of 41 weeks favourable outcome with routine induction of labor is there.

Maximum spontaneous delivery present in gestational age 41-42 weeks (44.6%),induced delivery 41.5% in in age 40-41 weeks, 32.1% LSCS in age 41-42 weeks. No significant association is found between gestational age and mode of delivery.

Among the deliveries with induction PGE2 gel was used in maximum proportion with 73.5% in gestational age 40-41weeks,69.2% in 41-42week but in the gestational age >42week Oxytocin and Misprostal both used in same proportion. However no significant association was found between gestational age and mode of induction (p=0.065).

Failed induction was the most frequent indication of LSCS which was seen in 83.3% cases of gestational age 40-41wk, 66.7% cases of GA 41-42 wk and 100% cases of GA>42wk. However no significant association was found between gestational age and indication for LSCS(p=0.427)

Cochrane systematic reviews demonstrated that prostaglandins (PGs) improve cervical ripeness and could initiate uterine contractions. Low dose (25mg intravaginal misoprostrol) are preferable to 50 gm. LSCS was done for fetal distress and failure of induction for CPD and deep transfers arrest.

In our study patients who had Bishop's score less than 4, they needed induction of labor by Cerviprime gel or Tb Misoprostrol or augmentation of labour by Oxytocin infusion. Patient underwent caesarean section in view of fetal distress and failure of induction.

In our study significant association was found between gestational age and Bishop score (p=0.002). This study reveals that Relationship of mode of delivery with Major Influencing Variables using regression analysis concluded that primigravida and low Bishop score were the significant causes for the induced delivery, while primigravida, low Bishop score and low baby weight were the significant causes for the LSCS. The Relationship of Induction Success with Major Influencing Variables using regression analysis concluded that post gestational age was the significant cause for unsuccessful induction.

Among the all 150 mothers, 97.3% were survived without any complication while 2.7% were survived with the complications. Among 150 births 86.7% were survived without any complication, 10% were survived with complication and 3.3% were not survived. Significant association was found between gestational age and mother complication.(p=0.006).Significant association was found between gestational age and baby outcome.(p=0.002).

1.3% patients have birth asphyxia, 4% patients have meconium aspiration syndrome (p<0.001).12.7% have post maturity sign (p<0.001).3.3% have birth injury (p=0.021), 26.7% required NICU admission (p<0.001).In monitoring of APGAR at 1minute, 25% patients in group>42 weeks,5.4% in group 41-42 weeks, 1.2% in 40-41 weeks have value <4. Higher post term age correlates with low APGAR (p<0.001). Post term pregnancy low 5-minute Apgar score.

Considering the maternal and neonatal morbidity associated with prolonged pregnancy, pregnancy should not be allowed to go post term. The patient should be counselled about risk of increasing gestational age. These women should be offered induction of labor before 42 weeks of gestation to avoid adverse neonatal consequences.

Our analysis did not have information on some variables known to be associated with fetal and neonatal mortality, including smoking, obesity, diabetes, syphilis, and difficult labour. Further studies including the above factors shall be beneficial for the policy makers.

Conclusion

With Regular antenatal check-up, incidence of postdate pregnancy can be decreased and it is important because of definite risk to fetus as pregnancy continuing beyond 40 wks of gestation is associated with increased perinatal morbidity & mortality especially those who do not come for regular antenatal check-up. Confirmation of diagnosis of exact term of pregnancy is very important as many patients don't have regular menstrual history and LMP.

References

- 1. Helene B. Bernstein. George Van Buren. Normal Pregnancy and Prenatal Care. Chapter 6. Available from: https://accessmedicine.mhmedical.com/content.aspx? sectionid=41008595&bookid=498
- [Internet] Cited on 12.03.2019. Available from: https://www.marchofdimes.org/pregnancy/what-is-fullterm.aspx [Internet] Cited on 12.03.2019. Available from: https://www.acog.org/-/media/Committee Opinions/Committee-on-Obstetric-Practice/co579.pdf?dmc=1&ts=20190309T0432043725
- 3. [INTERNET] Cited on 15.03.2019. Available from: http://applications.emro.who.int/imemrf/med_j_cairo_univ_ 1994_62_1_39.pdf.
- Galal M, Symonds I, Murray H, Petraglia F, Smith R. Post term pregnancy. Facts Views Vis Obgyn. 2012; 4(3):175-87.
- 5. Mandruzzato G, Alfirevic Z, Chervenak F *et al*. Guidelines for the management of postterm pregnancy. J Perinat Med. 2010; 38(2):111-119.
- 6. Bennett KA, Crane JM, Shea P *et al.* First trimester ultrasound screening is effective in reducing post-term labor induction rates: a randomized controlled trial. Am J Obstet Gynecol. 2004; 190:1077-1081.
- 7. ACOG Practic444444e Bulletin. Clinical management guidelines for obstetricians-gynecologists. Number 55,

September 2004 (replaces practice pattern number 6, October 1997). Management of Postterm Pregnancy. Obstet Gynecol. 2004; 104(3):639-46.

- 8. Norwitz ER, Snegovskikh VV, Caughey AB. Prolonged pregnancy: when should we intervene?. Clin Obstet Gynecol. 2007; 50(2):547-57.
- 9. Taipale P, Hiilesmaa V. Predicting delivery date by ultrasound and last menstrual period in early gestation. Obstet Gynecol. 2001; 97(2):189-94.
- Savitz DA, Terry JW Jr, Dole N *et al.* Comparison of pregnancy dating by last menstrual period, ultrasound scanning, and their combination. Am J Obstet Gynecol. 2002; 187(6):1660-6.
- 11. Bennett KA, Crane JM, O'shea P *et al.* First trimester ultrasound screening is effective in reducing postterm labor induction rates: a randomized controlled trial. Am J Obstet Gynecol. 2004; 190(4):1077-81.
- 12. Caughey AB, Nicholson JM, Washington AE. First versus Second Trimester Ultrasound: The Effect on Pregnancy Dating and Perinatal Outcomes. In Press, Am J Obstet Gynecol, 2008.
- 13. Mogren I, Stenlund H, Hogberg U. Recurrence of prolonged pregnancy. Int J Epidemiol. 1999; 28(2):253-7
- Olesen AW, Basso O, Olsen J. An estimate of the tendency to repeat postterm delivery. Epidemiology. 1999; 10(4):468-9.
- 15. Divon MY, Ferber A, Nisell H *et al.* Male gender predisposes to prolongation of pregnancy. Am J Obstet Gynecol. 2002; 187(4):1081-3.
- 16. Oberg AS, Frisell T, Svensson AC, Iliadou AN. Maternal and fetal genetic contributions to postterm birth: familial clustering in a population-based sample of 475,429 Swedish births. Am J Epidemiol. 2013; 177(6):531-7.
- 17. [INTERNET]. Cited on 14.05.2019. Available from: https://emedicine.medscape.com/article/261369-overview
- American College of Obstetricians and Gynecologists. Fetal Macrosomia. ACOG Practice Bulletin #22. ACOG. Washington, DC: 2000.
- 19. Spellacy WN, Miller S, Winegar A *et al.* Macrosomiamaternal characteristics and infant complications. Obstet Gynecol. 1985; 66(2):158-61.
- 20. Rosen MG, Dickinson JC. Management of post-term pregnancy. N Engl J Med. 1992; 326(24):1628-9.
- 21. [INTERNET]. Cited on 14.05.2019. Available from: https://emedicine.medscape.com/article/261369-overview
- 22. Kandalgaonkar VP, Kose V. Fetomaternal outcome in postdated pregnancy. Int J Reprod Contracept Obstet Gynecol. 2019; 8: 1899-906.
- Francis S. A retrospective study on fetomaternal outcome beyond 40 weeks period of gestation. Indian J Res. 2015; 4(12):113-5.
- 24. Nikita Patel. Prerak Modi. A Study of Maternal and Fetal Outcome in Postdate Pregnancy. International Journal of Science and Research (IJSR). 2017; 6:9. (Available from: https://www.ijsr.net/archive/v6i9/ART20176508.pdf)
- Dr. Rani Reddy S. Study of Maternal and Fetal Outcomes between 37 To 42 Weeks of Pregnancy. "IOSR Journal of Dental and Medical Sciences (IOSR-JDMS). 2018; 17(6):54-58.
- 26. Paliulytė V, Ramašauskaitė D. Labour induction in postdate pregnancy: when to start-at week 40 or 41 of gestation? Acta Medica Litu, 2010, 17.
- 27. Mahapatro A, Samal S. Fetomaternal outcome in pregnancy beyond 40 week. Int J Pharma Bio Sci. 2015; 6(2):53-8.

- 28. Akther S. Maternal and perinatal outcome in postdated pregnancy: a study of 100 cases in Bangladesh armed forces. JAFMC Bangladesh, 2014, 10.
- 29. Dobariya PV, Shah PT, Ganatra HK. Feto-maternal outcome in pregnancy beyond 40 weeks. Int J Reprod Contracept Obstet Gynecol. 2017; 6:527-31.
- Caughey AB, Nicholson JM, Cheng YW, Lyell DJ, Washington AE. Induction of labor and cesarean delivery by gestational age. Am J Obstet Gynecol. 2006; 195(3):700-5.
- Shinge N, MM VK, Prashanth S. Comparative studyof maternal and fetal outcome in pregnancies of gestational age 40 completed weeks and beyond. J Evol Med Dent Sci. 2013; 2(25):4509-16.
- 32. Singh S, Gupta HP, Verma U, Yadav G. The study of maternal and perinatal outcome in prolonged pregnancy. Int J Reprod Contracept Obstet Gynecol. 2017; 6:1067-7.
- 33. Punya BS. Study of postdated and term pregnancy with fetomaternal outcome at RRMCH. Indian Journal of Obstetrics and Gynaecology Research. 2017; 4(2):179-183.
- 34. Padmalatha Dakshnamurthy, Srimathi Jagannathan, Nidhi Sharma, Kannan Rajendran. A study of maternal and fetal outcome in postdated pregnancy. Int. J of Allied Med Sci. and Clin Res. 2017; 5(2):600-606.