

## Original Articles

### Pregnancy Beyond 40 Weeks and Feto-Maternal Outcomes

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#### ABSTRACT

**Background :** pregnancy beyond 40 weeks associated poor feto maternal and neonatal outcomes.several evidences showed poor perinatal outcomes in pregnancy beyond 40 weeks.This study conducted to find out the fetomaternal outcome of pregnancy beyond 40 weeks.

**Methods :** Study is prospective cross sectional study.Total 76 patients with uncomplicated prolonged pregnancy filling inclusion and exclusion criteria and admitted in department of obstetrics and gynecology at a tertiary care hospital.The Study aim was to know fetomaternal outcome in pregnancy beyond 40 weeks in regards of spontaneous and induced labour.

**Results :** 46 (60.52%) patients were in the age group of 20-30 years,42 (55.26%) were between 41-42 weeks of gestation according to their LMP. In 17 (22.36%) patients mode of delivery was caesarean section, in whom most common indication being fetal distress in 41.17% followed by failure to progress in 23.52%. In present study perinatal morbidity like lufd,neonatal asphyxia, MAS, RDS were 5.26%, 9.21%, 7.89% and 5.26% respectively. Maternal morbidity like prolonged labor, PPH, fever, wound infection were 11.84%, 9.21%, 5.26% and 5.26% respectively.

**Conclusions:** If patient take regular antenatal check-up, incidence of postdate pregnancy can be decreased and it is required because there is 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.Exact term of pregnancy must be confirmed because it is very important as many patients don't have regular menstrual history and LMP.Exact Last menstrual period date confirmed by first trimester ultrasound which is most important non-invasive method and readily available.

#### INTRODUCTION

Post-term pregnancy as a pregnancy with a gestational age of 42 completed weeks or more and term pregnancy was defined as a pregnancy with gestational age from 3 weeks before till 14 days after the EDD.<sup>[1]</sup>

In 2012,American college of obstetricians and gynaecologists(ACOG),and the society for maternal-fetal medicine (SMFM) recommended that the label "term" be replaced by early term, full term, late term and post-term to more accurately describe deliveries occurring at or beyond 37 weeks of gestation.<sup>[2]</sup>

- Early term: 37 to 38 weeks plus 6 days
- Full term:39 weeks to 40weeks plus 6 days
- Late term: 41 weeks to 41 weeks plus 6 days
- Post-term: 42 weeks and beyond

The adverse neonatal outcome is lowest among uncomplicated pregnancies delivered between 39 and 40weeks and 6 days of gestation.<sup>[3,4]</sup>

The most frequent cause of prolonged pregnancy is inaccurate dating.<sup>[5,6]</sup>

The risk factors for prolonged pregnancy are primiparity, maternal genetic factors, previous postdatism,obesity and male gender of the fetus.<sup>[7,8]</sup>

Criteria for diagnosing postdates are correlation of menstrual history, clinical findings and first trimester USG.

In postdate pregnancy there are chances of intra uterine fetal death fetal hypoxia, intra uterine asphyxia, intracranial damage, meconium aspiration syndrome, macrosomia, atelectasis, hypoglycemia and stillbirths.

These perinatal risks increases with increase in the gestational age beyond 40 weeks.<sup>[9,10]</sup>

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The maternal risks include obstructed labor, an increase in severe perineal injury related to macrosomia and operative vaginal delivery and an increase in the rate of cesarean delivery and postpartum hemorrhage.<sup>[11,12]</sup>

In this study, fetal and maternal outcome was studied in pregnancy beyond 40 weeks in consideration of spontaneous and induced labor

### METHODS

Study is a prospective cross sectional study done in Tertiary Care hospital in Obstetric and Gynecology Department.

Source of the patient: Patients attended ANC OPD and patients admitted in labor wards were included with consideration of inclusion and exclusion criteria.

#### Patient selection

By random selection fulfilling following criteria

- Those who crossed expected date of delivery.
- Vertex presentation
- Surety of LMP
- Singleton pregnancy
- One first trimester USG
- Taken First visit in first or second trimester

Total 100 patients were selected.

After per abdominal examination and per vaginal examination<sup>[13]</sup> i.e. assessment of bishop's score<sup>[14]</sup>, every patient was studied under respective groups.

Bishop score >6 is considered as a favourable cervix and <5 are as unfavourable.

All 76 patients were divided under Group 1 and Group 2 ,

In group 1 which 38 patients were included and labeled as spontaneous group.

Group II, in which 38 patients were included and labeled as induction group.

On admission following investigations were done:

- USG

- Fetus monitoring by cardiotocography and Non stress test Sand Biophysical profile
- Doppler flow study

To all, history of perception of fetal movements was asked and correlated with the history and well being of the fetus.

A patient was considered postdate, correlating her LMP (Naegele's rule<sup>[15]</sup>), clinical examination and first trimester ultrasound findings.

In spontaneous group fetal heart rate recorded every 30 mins in the first stage and every 15 minutes in the second stage of labor.

After ARM the liquor color was noted, can be clear, meconium stained, or thick meconium. If the liquor was thick meconium and spontaneous delivery was not possible, then the decision of LSCS was taken.

If the liquor was meconium stained then the decision of LSCS was taken according to the fetal heart rate and non stress test. Winkel et al empirically set the limits of normal fetal heart rates of 120-160 b/min.<sup>[16]</sup>

Accordingly the mode of delivery, maternal and perinatal outcome was considered.

Group II included the patients who were not in labor and were for the induction after evaluation.

For induction of labor Dinoprostone gel<sup>[17]</sup> was used. Then the patients were observed for uterine contractions and strict fetal heart rate monitoring.

After 6 hrs of dinoprostone gel instillation per vaginal examination was done. Again after 6 hrs per vaginal examination was done and if cervix was favourable, oxytocin augmentation was done after assessing the uterine contractions.

In both groups augmentation was done with ARM with good cervical dilatation and oxytocin drip started as per need. If per vaginal findings were same after second (repeat instillation), it was labelled as failure of induction, and decision of caesarean section was taken.

The color of liquor was seen after ARM, if it was meconium stained or thick meconium, then the decision was taken for LSCS.

TABLE 1 : Modified Bishop score classification

Score	0	1	2	3
Cervical dilatation	closed	1-2cm	3-4cm	5+cm
Cervical length	>4cm	3-4cm	1-2cm	<1cm
Station	-3	-2	-1,0	+1,+2
Consistency	Firm	Moderate	soft	
Position	Posterior	Mid	Anterior	

**TABLE 2 : Distribution of cases according to the age of patients**

Age in years	Number of patients	Percentage (%)
<20	26	34.21%
20-30	46	60.52%
>30	4	5.26%
Total	76	100%

**TABLE 3: Distribution of cases according to gestational age by dates and USG**

Gestational age in weeks	Gestational age by dates NO.(%)	Gestational Age by USG NO.(%)
40-41	32(42.10%)	27(35.21%)
41-42	42(55.26%)	48(63.15%)
>42	2(2.63%)	1(1.31%)
Total	76(100%)	100%

**TABLE 4 : Distribution of cases according to DFMC**

DFMC	NO.	%
Normal	70	92.10%
Decreased	3	3.94%
Lost	3	3.94%
Total	76	100%

**TABLE 5 : Distribution of cases according to the mode of delivery**

Mode of delivery	Group 1	Group 2
	No.(%)	No.(%)
Vaginal	26(68.42%)	29(76.31%)
Instrumental	3(7.89%)	1(2.63%)
Lscs	9(23.68%)	8(21.05%)
Total	38(100%)	38(100%)

**TABLE 6 : Distribution of cases according to the indication of LSCS**

Indication of LSCS	Group 1	Group 2
	No. (%)	No. (%)
Fetal distress	04(44.44%)	3(37.5%)
Failure to progress	02(22.22%)	02(25%)
Failure of induction	00	02(25%)
Failure to descent	01(11.11%)	00
Severe oligo	00	00
MSL	02(22.22%)	01(12.5%)
Total	9(100%)	8(100%)

**TABLE 7 : Distribution of cases according to the Apgar score at 5 minutes**

Apgar score at 5 minutes	Group 1	Group 2
	No. (%)	No. (%)
<7	03(7.89%)	02(5.26%)
>7	35(92.10%)	36(94.73%)
Total	38(100%)	38(100%)

**TABLE 8 : Distribution of cases according to the neonatal outcome**

Neonatal morbidity	Group 1	Group 2
	No. (%)	No. (%)
IUFD	2(16.66%)	2(22.22%)
Neonatal asphyxia	04(33.33%)	03(33.33%)
MAS	04(33.33%)	2(22.22%)
RDS	02(16.66%)	02(22.22%)
Total	12(100%)	9(100%)

**TABLE 9 : Distribution of cases according to maternal morbidity**

Maternal morbidity	Group 1	Group 2
	No. (%)	No. (%)
Prolonged labor	03(30%)	06(42.85%)
PPH	04(40%)	03(21.42%)
Fever	02(20%)	02(14.28%)
Wound infection	01(10%)	03(21.42%)
Total	10(100%)	14(100%)

The data gathered of all 76 patients analyzed.

The primary aim is to know neonatal outcome in the form of neonatal morbidity and mortality. Also maternal morbidity and mortality were studied.

Other measures studied were mode of delivery and need for caesarean section. Patients were followed up to 7 days after delivery; maternal and fetal morbidity or mortality was recorded

### RESULTS

In 17 (22.36%) patients mode of delivery was caesarean section, in whom most common indication being fetal distress in 41.17% followed by failure to progress in 23.52%. In present study perinatal morbidity like IUFD, neonatal asphyxia, MAS, RDS were 5.26%, 9.21%, 7.89% and 5.26% respectively. Maternal morbidity like prolonged labor, PPH, fever, wound infection were 11.84%, 9.21%, 5.26% and 5.26% respectively

### DISCUSSION

Majority of the patients belong to age group 20-30 years (60.52%) followed by <20 years (34.21%).

According to gestational age by dates, majority of cases were between 41-42 weeks 55.26%. Only 2.63% were more than 42 weeks.

When gestational age was calculated by first ultrasound, majority of cases were between 41-42 weeks and 1.31% patients were >42 weeks. Out of 76 patient 04 (5.26%) were diagnosed IUFD with loss of fetal movements.

Majority of patients (92.10%) were having normal DFMC.

Majority of patients were having similar FHR pattern in both groups.

In Group I, 23.68% were needed LSCS, In Group II 21.05% were needed LSCS.

The commonest indication for LSCS in both Group was fetal distress and second fail to progress.

Runa Heimstad et al.<sup>25</sup>, and Morris et al. (2003) studied similar results.

James Alexander et al.<sup>21</sup>, studied fetal distress as the most common indication for LSCS in Group I while both fetal distress and failure to progress in Group II.

Majority of babies (93.42%) were having Apgar score >7. Singal P et al.<sup>[18]</sup>, James Alexander et al.<sup>[19]</sup> and Heimstad R et al.<sup>[20]</sup> found similar results as present study.

Out of 76 patients, 4 (5.26%) were diagnosed IUFD, 7 (9.21%), 6(7.89%) and 4(5.26%) neonates having asphyxia, MAS and RDS respectively.

In present study maternal morbidity such as like prolonged labor, PPH, fever, wound infection were 11.84%, 9.21%, 5.26% and 5.26% respectively

### CONCLUSION

If patient take regular antenatal check-up, incidence of postdate pregnancy can be decreased and it is required because there is 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. Exact term of pregnancy must be confirmed because it is very important as many patients don't have regular menstrual history and LMP. Exact Last menstrual period date confirmed by first trimester ultrasound which is most important non-invasive method and readily available.

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