



## A Retroerspective Study on Fetomaternal Outcome Beyond 40 Weeks Period of Gestation

**Swati Francis**

Presenting Author: Swati Francis, Resident- Dept. of Obs. &amp; Gynaec.

**Annie Rajaratnam**

Co-author: Associate Professor- Dept. of Obs. &amp; Gynaec ,

**Rajgopal K**

Co- Author- Professor &amp; Head- Dept. of Obs. &amp; Gynaec ,

## ABSTRACT

**INTRODUCTION**

Postdated pregnancy is one of the most frequently encountered clinical dilemma by an obstetrician . The question lies weather to choose expectant management with antepartum foetal surveillance or to go ahead with induction of labor This study was designed to evaluate Spontaneous labor rates Induction rates Caesarean section rates Perinatal morbidity and mortality

**MATERIAL AND METHOD**

This retrospective study included 200 women including primigravida and multigravida beyond 40 weeks period of gestation meeting the inclusion and exclusion criteria admitted in department of obstetrics and gynaecology, Yenepoya Medical College, Manglore during a period from august 2014 to january 2015. All selected outcome variables were recorded in the hospital and the data analysed .Findings were analysed with special emphasis on maternal and fetal outcome .selected outcome variables included the maternal age , parity,mode of delivery, maternal complications ,neonatal morbidity,APGARscore and perinatal morbidity and mortality .

**RESULTS**

Of the total 200 patients beyond 40 weeks period of gestation , 57.5%delivered with spontaneous onset of labor ,94% delivered after induction and 20% had caesarean section .

**INFERENCE**

According to the present study it seems reasonable to induce labor at 41 weeks period of gestation as the fetomaternal complications tend to be significantly more after 42 weeks period of gestation .

**KEYWORDS**

postdated pregnancy , fetomaternal complications , caesarean section .

**INTRODUCTION :**

A pregnancy is said to as term when it is between 37 weeks and 42 weeks period of gestation .ACOG has endorsed a recommendation that the label term to be replaced with designations

Early term -37 through 38 weeks period of gestation

Full term – 39 through 40 weeks period of gestation

Late term– 41 weeks through 41 weeks 6 days period of gestation

Post term -42 weeks period of gestation and beyond to more accurately describe deliveries occurring at or beyond 37 weeks period of gestation<sup>1</sup>.About 4 – 15 % of pregnancies result in being prolonged which is depending on the method used to calculate gestational age .The most common cause for prolonged pregnancy is an error of the last menstrual period .Other probable causes include primigravidas , women with previous h/o prolonged pregnancy and maternal obesity .Fetal adrenal hypoplasia and anencephaly also tend to result in prolonged pregnancies .The amniotic fluid volume reaches its peak at around 38 weeks period of gestation after which there is a gentle decline .The fluid then reduces every week and has a massive reduction by 33% per week after 42 weeks of gestation <sup>2</sup>As the pregnancy goes into 38 weeks period of gestation and beyond the placenta starts showing infarcts and calcifications along with atherosclerosis of decidual and chorionic blood vessels .The fetal , neonatal complications include perinatal death , fetal asphyxia ,meconium aspiration , fetal trauma , and post maturity syndrome .Maternal

complications include perineal trauma ,operative intervention , cervical tear ,postpartum haemorrhage and post partum infections .Management includes proper antenatal care including accurate dating of pregnancy, fetal surveillance, and the option of induction of labor or expectant management .

**MATERIAL AND METHODS**

A retrospective hospital based study was carried out in department of Obstetrics and Gynaecology of Yenepoya medical college , a tertiary health care referral centre in Mangalore ,Karnataka over a period of 6 months from august 2014 to january 2015.

The inclusion criteria included :pregnant women beyond 40 weeks period of gestation with dependable dates – last 3 menstrual cycles regular, not used contraceptive pills for past 3 months , not conceived during lactational amenorrhoea .

The exclusion criteria involved any associated complications like previous LSCS, malpresentations , PIH ,placenta previa , and other medical complications .

All selected outcome variables were recorded in the hospital and the data analysed .Findings were analysed with special emphasis on maternal and fetal outcome .selected outcome variables included the maternal age , parity, mode of delivery, maternal complications ,neonatal morbidity,APGARscore and perinatal mortality and morbidity .

**RESULTS :**

After exclusion of pregnancies complicated by multiple gestation ,Gestation diabetes ,chronic hypertension ,preeclampsia , and congenital anomalies the 200 women were taken into consideration and pregnancy outcomes assessed . In accordance to table 1 89.5% pregnancies were between 40 – 40 weeks 6 days period of gestation ,7.5% between 41 – 41 weeks 6 days , 3% belonged to beyond 42 weeks .Of the total 200 pregnant women , around 64% were primigravidas and 36 % were multigravidas . According to various studies conducted prolonged pregnancies were seen most commonly in primigravidas as compared to multigravida pregnancies .

TABLE 1 :  
GESTATIONAL AGE DISTRIBUTION

GESTATION AGE	PERCENTAGES
40 – 40 WEEKS 6 DAYS	(179) 89.5%
41 – 41 WEEKS 6 DAYS	(15) 7.5%
42 WEEKS	(6) 3%

According to table 2 around 91% postdated pregnancies were between 20 – 35 years of age

TABLE 2 :  
AGE DISTRIBUTION

AGE	NUMBER	PERCENTAGE
<20	10	5%
20 – 35	182	91%
> 35	8	4%

In accordance to table 3 of the total 200 pregnancies around 20% had caesarean section ,64% went into spontaneous labor , and 16% had successful induction .49.5% Of the primigravidas between 40 – 40 weeks 6 days period of gestation who had spontaneous labor delivered vaginally .In 41-41 weeks 6 days period of gestation 2.5% delivered vaginally of the ones that had gone into spontaneous labor . and only 1% of the women who belonged to beyond 42 weeks delivered vaginally .57.5%delivered vaginally out of 60% with misoprost induction ,14% delivered vaginally of the 15 % who had dinoprost induction and 22.5% delivered vaginally of the 25 % who were induced with oxytocin .Of the 30 % who had undergone caesarean section , 4.5% had failed induction ,1.5% had fetal distress and .5% had accounted for deep transverse arrest ..5% between 41 – 41 weeks 6 days POG had outlet forceps assisted delivery and 1% between 40 -40 weeks 6 days POG had vaccum assisted delivery .Another

1 % between 41-41 weeks 6 days POG also had accounted for vaccum assisted deliveries .In accordance to meconium stained liquor ,in 40-40 weeks 6 days period of gestation 5.5% had thin meconium stained liquor and 1.1% had thick meconium stained liquor .In 41-41weeks 6 days 33.3% had thin meconium and 13.3 % had thick meconium stained liquor .Beyond 42 weeks 16.6 % had thin meconium stained liquor and 33.3% had thick meconium stained liquor .majority of the babies weighed between 2.5 – 3.5 kgs .20% in 41-41 weeks 6 days POG were weighing more than 3.5ks and around 16.6% of the babies in beyond 42 weeks POG were weighing more than 3.5kgs

TABLE 3 :  
MODE OF DELIVERY

MODE OF DELIVERY	NO. OF PATIENTS	PERCENTAGE
SPONTANEOUS LABOR	(128)	64%
SUCCESSFUL INDUCTION	(32)	16%
CESAREAN SECTION	(40)	20%

APGAR scoring was on the better side at 40 -40 weeks 6

days period of gesation and was deteriorating as the period of gestation progressed which is well noted through table 4 .Around 16.6% of the patients who belonged to beyond 42 weeks period of gestation had their babies for NICU admissions,20 % between 41 -41 weeks 6 days period of gestation had NICU admissions and only 1.1 % between 40 -40 weeks 6 days period of gestation had NICU admissions .However no perinatal morbidity and mortality were accounted during this study period .

TABLE 4 :  
APGAR SCORING

APGAR	40- 40 WEEKS 6 DAYS	41-41 WEEKS 6 DAYS	>42 WEEKS
1 MIN			
<4	(4) 2.2%	(2) 13.3%	(0)
4 - 7	(38) 21.2%	(3) 20%	(2)33.3%
>7	(137)76.5%	(10)66.6%	(4)66.6%
5 MIN			
<4	(4) 2.2%	(1)6.6%	(0)
4-7	(39) 21.7%	(2) 13.3%	(1)6.6%
>7	(136)75.9%	(12)80%	(5) 83.3%

Hence further results were evaluated and assessed and concluded that the fetomaternal outcome deteriorates as pregnancy progresses beyond dates and early timely intervention would lead to a better prognosis involving both the mother and the baby .

DISCUSSION :

The purpose of this study was to assess pregnancy outcomes at 40-41,41-42 and beyond 42 weeks period of gestation.200 women without confounding variables such as hypertension ,diabetes ,prior caesarean birth, non cephalic presentation,fetal malformations or placenta previa were included in this study done over a period of 6 months .

Of the total 200 women , 89.5% were in 40 weeks period of gestation,7.5% in 41 weeks period of gestation and 3% were in >42 weeks period of gestation.Most women were in between(91%) (20 – 35 years of age and (64%) were primigravida .Most of the authors do agree regarding that pregnancy beyond 40 weeks period of gestation is found mainly in primigravida <sup>3</sup>.

Among 200 women , 64 % went into spontaneous labor, 16% were induced .57.5% women had spontaneous vaginal delivery, 57.5% deliveredvaginally after induction and 20% had caesarean section .A prospective study conducted by prabha singh et al to evaluate the maternal and fetal complications pertaining to prolonged pregnancy concluded that labor started spontaneously in 54% and induction was done in 46 % of the total 150 postdated patients <sup>4</sup> .

Vaginal delivery rate in women who went into spontaneous labor was 64% and among induced women it was 94% . In the study by prabha singh et al vaginal delivery rates in the spontaneous labor groups and the induced group were 91.4% and 74 % respectively<sup>4</sup>.

Misoprostol , dinoprostol gel and oxytocin were the different modes of inductions used.misoprostol was used in majority of inductions followed by dinoprostone gel . The results of study conducted by behra et al showed that caesarean section rate was considerably less in PGE2 group 18 % as compared to oxytocin group 45% <sup>5</sup> .

Number of patients who underwent caesarean section, 11.5% were in 40 -41 weeks ,7.5% in 41-42 weeks and 1% in >42 weeks . The indication of caesarean were 9.5% failed induction , 5.5% fetal distress and .5% deep transverse arrest . The trial study conducted by Hannah et al concluded that the induction of labor did not increase the caesarean section rates . The rates were lower 21.2 % in the induction group than in

the expectant management group 24.2% and this reduction was confined to caesarean birth for fetal distress<sup>6</sup>.

The present study is comparable to the study of pregnancy outcome beyond 40 weeks period of gestation by alexander et al where forceps delivery accounted for 6 % where in our study it accounted for .5% . James et al concluded that labor complications increases progressively from 40 weeks period of gestation onwards with increased operative vaginal delivery and caesarean seen at 41 and 42 weeks period of gestation<sup>7</sup>.

The incidence of meconium stained liquor also proved to be increasing with period of gestation which is comparable to the study conducted by prabha singh et al who concluded that meconium stained liquor was seen in 7.4 % in spontaneous labor group and in 15.9% in induced labor group<sup>4</sup>.

Most women had babies weighing between 2.5 -3.5 kg .The perinatal morbidity as measured by low APGAR was high in this study as compared to the study conducted by alexander et al . Admission to NICU has progressively worsened with increasing gestational age beyond 40 weeks period of gestation .

James et al concluded that routine intervention at 41 weeks would likely increase labor complications with little or no benefits<sup>7</sup> .Hence further concluding that since adverse maternal and fetal outcome is significantly on the higher side after 42 weeks period of gestation , induction of labor at 41 weeks period of gestation should be made into practice .

#### CONCLUSION:

Pregnancy beyond dates is the most frequently encountered dilemma faced by an obstetrician . Though the correct and the most appropriate choice of management remains controversial , According to the present study it seems reasonable to induce at 41 weeks of gestation as the fetomaternal complications tend to be significantly more after 42 weeks of gestation .

#### REFERENCES

- 1)SpongC Y .defining term pregnancy :recommendations from the defining term pregnancy workshop.JAMA .2013;309:2445-2446
- 2)BraceR A ,Wolf E J normal amniotic fluid volume changes through out pregnancy Am J ObstetGynecol.1989;161:382-388
- 3)CunninghamF G ,Kenneth J L ,Steven L B , John C H .Williams Obstetrics 23 rd edition .New York:Mac Graw Hill: 2010.pg 832-4)
- 4)Prabha Set al . Fetomaternal outcome following post date pregnancy.J Of Obstet and Gynecol Of India2001;51:89-93.
- 5) Behra et al. Labor induction in unfavourable cervix.J of Obstet and Gynaecol of india 1997;47:335-343
- 6)HannahM E et al .Canadian multicenter post term pregnancy trial group.Induction of labor as compared with serial antenatal monitoring in post term pregnancy. N Engl.J.Med1992;326:1587-7)
- 7)JamesM A et al . Fourty weeks and beyond: pregnancy outcome by weeks of gestation .Obstet Gynecol2000;96:291-4.