



## A STUDY OF MATERNAL AND PERINATAL OUTCOME IN POST DATED PREGNANCY

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### ABSTRACT

When pregnancy goes beyond 40 weeks it is called post dated pregnancy. The incidence of post term pregnancy varies from 3-12%<sup>1,2</sup>. Post term or post dated pregnancies are associated with various maternal and fetal complications. A total of 80 women attending labour room emergency with post dated pregnancy (<40 weeks) were recruited for the study. This study was done to observe the maternal and fetal outcome in post dated pregnancies. The mean age was 23.14±2.2 years. Maximum women were in the age group of 20-30 years (67.5%). More than 50% had meconium stained liquor whereas 42.5% had clear liquor. A birth weight more than 3 kg was observed in 21 babies which was 26.25 % and maximum of 53 babies (66.25%) had birth weight between 2.5 kg and 3 kg. Only 6 babies had birth weight less than 2.5 kg. Ten babies were admitted to NICU. Thus, post dated pregnancies require strict vigilance during antepartum, intrapartum and post partum period due to increased incidence of complications.

**KEYWORDS :** postdated, meconium stained liquor

### INTRODUCTION

Normal pregnancy duration is of 9 months and 7 days (40 weeks or 280 days). When pregnancy goes beyond 40 weeks it is called post dated pregnancy. According to American College of Obstetricians and Gynaecologists (ACOG 2004), World Health Organization, and International Federation of Gynaecology and Obstetrics prolonged pregnancy or post term pregnancy is one which has completed 42 weeks of gestation from the first day of last menstrual period (LMP)<sup>1</sup>. The incidence of post term pregnancy varies from 3-12%<sup>1,2</sup>. Post dated or post term pregnancy can be due to various causes like wrong dates of last menstrual period (LMP), history of post dated pregnancy in past, sedentary lifestyle, elderly multipara, placental factors and fetal factors. Placental sulphatase enzyme deficiency and deficiency of placental CRH causes post datism. Congenital fetal anomalies like anencephaly which disrupt the hypothalamic pituitary axis (HPA) and adrenal hypoplasia cause post datism due to poor fetal cortisol response which delays the start of labour process. Post term or post dated pregnancies are associated with various maternal and fetal complications. Maternal complications can be –labour dysfunction, obstetric trauma, increased instrumental and operative deliveries, post partum haemorrhage etc. Fetal complications like fetal hypoxia, asphyxia, intracranial damage, meconium aspiration syndrome (MAS), macrosomia, atelectasis, hypoglycaemia, cord compression, shoulder dystocia, oligohydramnios and stillbirthscan occur. These perinatal risks increase with increase in the gestational age beyond 40 weeks<sup>3,4</sup>. The newborn is at risk of post maturity syndrome, neonatal seizures, hypoglycaemia, plicythemia, hyperbilirubinemia, low apgar score and increased NICU admissions. All these factors compel the obstetrician to induce labor once 41 weeks are completed, even in the absence of any valid indication<sup>5,6</sup>. So this study was done to observe the maternal and fetal outcome in post dated pregnancies.

### MATERIALS AND METHOD

The study was a prospective study conducted in the department of obstetrics and gynaecology, Nalanda medical college and hospital from December 2018 to December 2019. A total of 80 women attending labour room emergency with post dated pregnancy (<40 weeks) were recruited for the study.

### INCLUSION CRITERIA:

- Women who were sure of dates
- Regular menstrual cycle prior to conception
- Singleton pregnancy
- Vertex presentation
- First trimester ultrasound

### EXCLUSION CRITERIA:

- Not sure of last menstrual period (LMP)
- History of irregular menstrual cycle
- Multiple gestation
- Rh incompatibility
- Previous LSCS
- Any medical disorder like diabetes mellitus, heart disease, hypertension, renal abnormalities etc
- Complicated pregnancies like fetal growth restriction, antepartum haemorrhage (APH), premature rupture of membranes (PROM) and pregnancy induced hypertension (PIH) etc
- Non vertex presentation

After proper written consent, 80 women were enrolled. All recruited subjects underwent a detailed history and examination as per standard pre-structured protocol. Detailed history was taken and patient's age and last menstrual period was noted. The period of gestation was calculated by last menstrual period. Estimated date of delivery was calculated by adding 9 months and 7 days to the LMP. All 80 recruited subjects had crossed 40 weeks of gestation by LMP or first trimester ultrasound. The demographic and clinical details were noted. Patient's menstrual history, obstetric history, past medical and surgical history and family history were also elicited in detail.

The outcome parameters in this study are maternal and fetal outcome. The maternal outcome was noted by the mode of delivery. The fetal outcome was noted by the weight of baby at birth, colour of amniotic fluid whether meconium stained or not, and the apgar score at 1 and 5 minutes.

### RESULTS

A total of 80 patients admitted in emergency department of obstetrics and gynaecology with post dated pregnancy were recruited in this study. The mean age was 23.14±2.2 years. Maximum women were in the age group of 20-30 years (67.5%).

**Table 1: Distribution according to age**

Age in years	Number	Percentage (%)
<20	18	22.5
20-30	54	67.5
>30	8	10

Forty six women were primigravida accounting to 57.5 %. Thirty four women were multigravida (42.5%).

All 80 women were categorised in 3 groups according to period of gestation (POG). First group comprised of POG between 40 to 40 weeks + 6 days, second group between 41 to 41 weeks + 6 days and third group beyond 42 weeks. Maximum subjects were in first group accounting to 77.5% and minimum in more than 42 weeks group accounting to 2.5%.

**Table 2: Distribution according to period of gestation**

Gestational age ( weeks + days)	Number	Percentage (%)
40 to 40 + 6	62	77.5
41 to 41 + 6	16	20
>42	2	2.5

Maternal outcome was measured by mode of delivery. Forty two women had normal vaginal delivery, two had instrumental delivery by ventouse and 36 underwent LSCS.

**Table 3: Distribution according to mode of delivery**

Mode of delivery	Number	Percentage (%)
Vaginal delivery	42	52.5
Instrumental delivery	2	2.5
LSCS	36	45

The colour of liquor was observed for meconium. Forty six women (57.5%) had meconium stained liquor whereas 34 (42.5%) had clear liquor. A birth weight more than 3 kg was observed in 21 babies which was 26.25% and maximum of 53 babies (66.25%) had birth weight between 2.5 kg and 3 kg. Only 6 babies had birth weight less than 2.5 kg. Apgar score at 1 minute was less than 7 in 10 babies and at 5 min it was less than 7 in 4 babies (5%). Ten babies were admitted to NICU. None of the babies had stillbirth.

**Table 4: perinatal outcome**

Parameter	Number	Percentage (%)
Clear liquor	34	42.5
Meconium stained liquor	46	57.5
Birth wt <2.5 kg	6	7.5
Birth wt 2.5-3 kg	53	66.25
Birth wt >3 kg	21	26.25
Apgar at 1 min <7	10	10
Apgar at 1 min >7	70	70
Apgar at 5 min <7	4	5
Apgar at 5 min >7	76	95

## DISCUSSION

This study was done on 80 post term pregnant women. The mean age observed was  $23.14 \pm 2.2$  years. Maximum women were in the age group of 20-30 years (67.5%). In a similar study done on 96 cases, the mean age of study participants was 26.34 years (SD  $\pm 5.4$ ) within range of 17 to 40 years of age and maximum participants 77 (80.2%) were included in the age group of 20 to 35 years of age. Only 8 patients were in the age group >35 years (8.3%)<sup>7</sup>. In another clinical study of maternal outcome in post dated pregnancy in a tertiary care hospital done by Anand N et al, the mean age of total subjects was  $24.12 \pm 4.13$  years which was similar to our study. Mean age as  $24.21 \pm 4.46$  years in group 1 (spontaneous labour) and  $24.02 \pm 3.81$  years in group 2 (induction of labour)<sup>8</sup>. Singh S in their study found that post dated pregnancy was more prevalent in 20-29 years of age group accounting to 83.41%<sup>9</sup>. They also found that women who delivered at term (37-40 weeks) were mostly multigravida 418 (67.09%) and the

incidence of post-dated deliveries was almost equal in primi and multigravida<sup>8</sup>. Whereas in our study primigravida was 57.5% of total and 42.5% women were multigravida. Mahapatro et al, found maximum (72%) of patients were primigravida which was similar to our study<sup>10</sup>. In another study done by Kandalgaonkar VP et al, maximum patients 61 (63.5%) were primigravida and 35 patients (36.5%) patients were multigravida<sup>7</sup>. However, Amina FN et al and Akhter S et al in their study found maximum patients with post dated pregnancy were multigravida 54% and 53% respectively<sup>11,12</sup>.

Akhter S et al, from Bangladesh studied that maximum patients (80%) were within 40+6 to 42 weeks<sup>12</sup>. Similarly, Dobariya PV et al, studied that maximum patients are within 41 to 42 weeks<sup>13</sup>. But in our study, maximum women (77.5%) were in between 40 weeks to 40 weeks+6 days. Similar results were seen in studies done Francis S et al and APatel N et al in their studies<sup>14,15</sup>. Kandalgaonkar VP et al in their study found that majority (69.8%) of the study participants were in the group of gestational age of 40 week to 40+6 week. About twenty seven percent patients had gestational age from 41 to 41+6 weeks, only 3.1% had more than 42 weeks of gestation<sup>7</sup>.

Meconium staining of liquor is seen very commonly in patients with post dated pregnancy. In our study, 57.5% had meconium stained liquor and only 42.5% had clear liquor. Mundhra R et al showed in their study that approximately 50% cases had gestational ages of more than 40 weeks as compared to 14.2% controls who showed similar gestational ages, suggesting that advancing gestation increased meconium staining of amniotic fluid<sup>16</sup>. Singh S et al found that in post-dated group the meconium was found in 18.11% cases at (40-41) weeks, 31.8% cases at (41-42) weeks and in 45.4% cases at >42 weeks<sup>9</sup>. This also shows that incidence of MSL increases as period of gestation increases.

In our study, 42 women (52.5%) had normal vaginal delivery, two had instrumental delivery and 36 (45%) underwent LSCS. In a study done on 96 post term women majority i.e. 45 patients (46.9%) went into spontaneous labour and delivered vaginally, whereas 16 patients (16.7%) required caesarean section<sup>7</sup>. Anand N et al found that out of 170 patients 69% were delivered vaginally 28% by LSCS and in 3% it was instrumental delivery<sup>8</sup>. Shinge N et al, 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<sup>17</sup>. These showed that although more number of cases delivered vaginally but overall rate of caesarean deliveries increases as period of gestation goes beyond 40 weeks. Thus prolonged pregnancies increase the risk of maternal morbidity in terms of induction, instrumental deliveries and LSCS.

Our study found that birth weight more than 3 kg was observed in 21 babies which was 26.25% and maximum of 53 babies (66.25%) had birth weight between 2.5 kg and 3 kg. In a study on post dated pregnancy, the majority 77 (80.2%) of the babies born to participants weighed between 2.5 to 3.5 kg. Only 6 (6.3%) babies had birth weight of >3.5 kg. Thirteen babies (13.5%) had birth weight <2.5 kg which is similar to our study<sup>7</sup>. Singh S et al also found that the average birth weight in term group was 2.75 kg and 3.25 kg in post-dated group<sup>9</sup>.

Apgar score at 1 minute was less than 7 in 10 babies and at 5 min it was less than 7 in 4 babies (5%) in our study. Ten babies were admitted to NICU. None of the babies had stillbirth. Kandalgaonkar VP et al found that 89.6% of the babies born to participants had Apgar score of >7 after 1 minute of birth, 6 babies (6.2%) had Apgar score of 4-7, and 4 babies (4.2%) had Apgar score of <4 at 1 minute of birth<sup>7</sup>. In study by Patel N et al, 20.68% babies had apgar <7 at 5 min in spontaneous labour group and 42.85% in induced group whereas, 79.31% in

spontaneous labour group had apgar>7 and 57.14% in induced group had Apgar>7 at 5 minutes<sup>14</sup>.

## CONCLUSION

Post dated pregnancies require strict vigilance during antepartum, intrapartum and post partum period due to increased incidence of complications. Obstetrician should carefully monitor labour progress and fetal well being. Timely intervention should be done to avoid maternal and fetal complications.

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