**FETOMATERNAL OUTCOME BEYOND 40 WEEKS PERIOD OF GESTATION**

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**ABSTRACT**

**Introduction:** The timely onset of labor and birth is an Important Determinant of perinatal outcome. Pregnancy beyond due date is one of the most frequent clinical dilemma faced by the obstetricians, whether to choose expected management with ante partum fetal surveillance or to prescribe induction of labor remains controversial. So, the present study is conducted to analyse fetomaternal outcome beyond the expected date of delivery.

**Material and Methods:** The prospective clinical study was conducted in the Department of Obstetrics and Gynaecology J.N.M.C.H, A.M.U. during 2016-2018. Total of 250 antenatal women beyond 40 weeks of gestation were included in the study after fulfilling the inclusion and exclusion criteria. After Institutional Ethics Committee approval all recruited women were divided into 3 groups. Group I – Women with 40-40 weeks period of gestation. Group II – Women with 41-41 weeks period of gestation. Group III – Women with 42 weeks period of gestation.

**Results:** Out of 250 pregnant women, 181(72.4%) women were in 40-40 weeks 6days, 56(22.4%) women were in 41-41 weeks 6days and 13(5.2%) women belongs to 42 weeks period of gestation. Most of the cases were primigravida 136(54.4%) with Mean±S.D maternal age of 24.92±3.28 years & mean gestational age of 40±40 weeks 6days Out of 402 cases 201 (50%) underwent spontaneous labor & 201 (50 %) needed induction of labor. Most common mode of delivery was vaginal constituting 177(70.8%). Meconium stained liquor was present in 36(14.4%) of women. Fetal distress with meconium stained liquor were the common indication for caesarean section. 14 (5.6%) babies were admitted to NICU most of the admissions 6(33.33%) were for meconium aspiration syndrome. Intrauterine fetal demise occurred in 5 cases(27.78%) without any risk factors. Pregnancy beyond 40wks increases the chance of oligohydramnios, Caesarean section for fetal distress and NICU admission for meconium aspiration syndrome.

**Conclusion:** Elective induction of labor with an unfavourable cervix should be discouraged and waiting till 41weeks with proper feto-maternal surveillance and then inducing improves maternal and neonatal outcome.

**INTRODUCTION**

Pregnancy beyond expected date is one of the most frequent clinical dilemma faced by the obstetricians, whether to choose expected management with ante partum fetal surveillance or to prescribe induction of labor remains controversial. About 4 to 15% of pregnancies result in being prolonged pregnancy, depending on the method to calculate the gestational age. Other probable causes include primigravidas, women with previous h/o prolonged pregnancy, maternal obesity, male gender of the fetus, fetal adrenal hypoplasia and anencephaly. 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. Maternal risks include emergent caesarean delivery, vacuum extraction or forceps delivery, cephalopelvic disproportion, cervical rupture, perineal lacerations, dystocia, large fetus, fetal death, postpartum hemorrhage. Neonatal risks are asphyxia, aspiration, admission to intensive care after birth, bone fracture, peripheral nerve paralysis and others.\[1,2,3\] The period after 40 weeks is utmost concern for the patients as well as the obstetrician. There is more incidence of decreased amniotic fluid, meconium passage and macrosomia after 40wks. So, most of the obstetrician prefer termination of pregnancy before 42wks as the risk of fetal mortality is doubled in pregnancies which has crossed 42wks than the pregnancies at 40wks.\[4,5\] Because of these risks, the American College of Obstetricians and Gynecologists (ACOG),\[6\] recommends initiation of antenatal surveillance between 41

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**Key words:** Induction of labor, Prolonged pregnancy, Perinatal morbidity,
weeks and 42 weeks of gestation because perinatal morbidity and mortality increases with advancing gestational age. Even a study on mother’ attitude mentions then acceptance of conservative management beyond 41 weeks by the pregnant women. Thus, the purpose of our study is to find out fetomaternal outcome in pregnancy beyond 40 weeks.

**MATERIAL AND METHODS**

The present study was a prospective observational study and includes 250 pregnant women with known last menstrual period, history regular menstruation, singleton pregnancy, gestational age from 40 weeks or beyond and aged between 20 and 40 years. The exclusion criteria were history of gestational hypertension, diabetes mellitus, intrauterine growth restriction, hydrops fetalis, congenital malformations, twins, polyhydramnios and premature rupture of membranes. After approval by Institutional Ethics Committee all recruited women were observed for baseline demographic and obstetric data including age, parity and past medical events at first antenatal visit. After taking a detailed history and examination all women provided an informed written consent and were divided into three groups based on gestational age.

**Group I** – Women with 40-40 weeks 6 days period of gestation.

**Group II** – Women with 41-41 weeks 6 days period of gestation.

**Group III** – Women with 42 weeks period of gestation.

The Primary outcome measures were to evaluate the spontaneous labor rate, induction rate, mode of delivery, maternal complications, and rate of caesarean section for fetal distress, oligohydramnios, meconium aspiration syndrome, Apgar score, NICU admission, perinatal mortality while secondary outcome were birth weight, number of perinatal death. The correlation of fetomaternal outcome were computed for the three groups. ‘P’ values of less than 0.05 were considered statistically significant.

**RESULTS**

In our study population out of 250 pregnant women, 181 women were in Group I, 56 women were in Group II and 13 women belongs to Group III. Maternal baseline characteristics between the groups in terms of age, parity and gestational age (Table 1). Induction of labor was done in 106 women (42.4%) women while 144 women (57.6%) women had spontaneous labor. In Group comparison maximum number of women were induced in Group I 70.7% (128 women) while 71 (28.4%) women had spontaneous labor. In Group I 70.7% (128 women) had normal vaginal delivery Mean±SD of birth weight in our study was 3.01±0.48 in Group I, 3.02±0.28 in Group II and 2.98±0.4 in Group III. Out of 250 neonates, 03 (1.66%) Vs 01 (1.79%) Vs 02 (1.30%) neonates developed MAS in the three groups respectively. 14 neonates were admitted in NICU, 09 neonate in Group I, 04 neonate in Group II, and 01 neonate in Group III. There were 18 neonatal morbidities and 05 neonatal deaths in all the three groups. There was no significant statistical difference between the groups (p>0.05). (Table 4).
**DISCUSSION**

Postterm pregnancy associated with an increased risk of postnatal mortality and morbidity including meconium aspiration syndrome, oligohydramnios, macrosomia, fetal birth injuries, septisemia, rate of non reassuring fetal heart rate, fetal distress in labour and maternal complication increased LSCS rate, cephalopelvic disproportion, cervical tear, dystocia, postpartum haemorrhage. Should pregnancy be allowed to run a natural course (or) is intervention necessary? Currently ACOG recommends labor induction at 42 weeks in women with favourable cervices and cervical ripening and fetal surveillance in women with unfavourable cervices, but recognizes that management of women beyond 40 completed weeks of gestation is unclear. American College of Obstetricians and gynaecologists, (1997). Thus, the purpose of this study is to assess pregnancy outcomes at 40-40 weeks 6days, 41-41 weeks 6days and beyond 42 weeks of gestation. In our study population out of 250 pregnant women, 181(72.4%) women were in Group I, 56(22.4%)women were in Group II and 13(5.2%) women belongs to Group III. The Mean±SD of age of study population in Group I was 24.79±3.58 years, in Group II was 24.92±3.28 years and 25.38±4.78 years in Group III. The difference between the groups for parity was statistically significant and all the groups were therefore not comparable (p<0.05). Our results are comparable with the studies[8,9] who found statistically significant difference in three groups while they are inconsistent with[10,11]. The difference could be because we have calculated gestational age with LMP while in their study gestational age was calculated by first ultrasound, majority of cases were between 41–42 weeks and only 1.19 % was >42 weeks. In the present study, induction of labour was done in 106 women (42.4%) women while 144 women (57.6%) women had spontaneous labor. In Group comparison maximum number of women were induced in Group I and Group II as compared to Group III. Spontaneous labor was maximum in Group I and the difference between the groups was statistically significant.(p<0.05) (Table 2). There was no difference in number of spontaneous labour Vs induced labour. [12]

It was observed that there was no significant difference in mode of delivery in the three groups.(Figure 1). Our findings are in accordance of the study.[9] The rate of LSCS beyond 41 wks is 30 (36.58 %) in their study. This high rate maybe due to induction of all cases after 41 wks. The labor complications...
increases progressively from 40 weeks period of gestation onwards with increased operative vaginal delivery and caesarean section seen at 41 and 42 weeks period of gestation. [13]

The most common indication for LSCS in Group I and Group II was fetal distress and in Group II and Group III was fetal distress and MSL followed by Fetal distress with non reactive CTG. This distribution was significant ( p<0.05). (Figure 2) .There was no significant difference in the presence of meconium in all the three groups, but it was observed from our results that the incidence of meconium stained liquor significantly increases as the gestational age advances after 41 weeks±6days (12.5%Vs 30.7%).The incidence of MSL were 29%vs16% in 41 and 40 weeks [18]so more vigilant and careful fetal monitoring is required in 41 week group.(Figure 3) The incidence of oligohydramnios was 24%, 33% and 33.3% in the three groups respectively. There was no significant difference in the presence of oligohydramnios between the three groups (p>0.05). (Figure 4).

Maternal morbidity is not significant among the three groups respectively while maternal morbidity like increased rate of caesarean section, PPH, perineal tear, sepsis and cervical tear are more common in 41 week group as compare to 40 week group[15]. This is attributed by more caesarean section rates in 41 week group. (p<0.05%) (Table.3) APGAR score gradually reduced with the progression in post dated pregnancy, There was no significant difference between the birth weights of the three groups (p> 0.05).There was no statistical difference between the groups for NICU admission and our results were in harmony with the study[12] who also foundrate of NICU admission at 7.5% at 40-41 wks& 15.71% at 41-42 wks .In our study, there were 18 neonatal morbidities and 05 neonatal deaths in all the three groups. There was no significant statistical difference between the groups (p>0.05). (Table.4)

References