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Maternal-Fetal Outcomes in Prolonged Pregnancy

KEYWORDS: prolonged pregnancy, fetal distress

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ABSTRACT *Aim: To evaluate the neonatal and maternal outcome among the pregnant women with pregnancies beyond 40 weeks gestation.*

Material & methods: The study comprised of 80 patients with gestation age beyond 40 weeks. Variables like age, parity, gestational age, mode of delivery, maternal and neonatal outcome were studied.

Results: Majority of the patients 36 (45.0%) were between 23 – 27 years of age. 75 (93.7%) women were in 40wk – 40wk 6D gestation. The mode of delivery was caesarean section in 61.3% patients. Among the fetal complications, fetal distress was most common 19(23.7%), followed by meconium aspiration syndrome in 6(7.5%), jaundice neonatorum in 4 (5.0%).

Conclusion: Prolonged delivery was associated with increased risks of perinatal complications like fetal distress and meconium aspiration syndrome. The rate of cesarean section was higher in prolonged pregnancies.

INTRODUCTION

Postdate, post term, post maturity and prolonged pregnancy are accepted terms by WHO and the International Federation of Gynecology and Obstetrics (**FIGO**) to describe pregnancy beyond dates (expected date of delivery). As per WHO Post term pregnancy (PTP) is defined as a pregnancy that persists beyond 294 days or 42 weeks of gestation.[1]The reported frequency of post-term pregnancy is approximately 7 percent.[2] The incidence of PTP varies depending on whether the calculation is based on the history and clinical examination alone, or whether early pregnancy ultrasound examination is used to estimate gestational age.[3,4] The assessment of the gestational age by early ultrasound examination has reduced the "incidence" of PTP by 50.0%.[5] Most cases of post-term pregnancy result from a prolongation of gestation. Other cases result from an inability to accurately define EDD.

Complications to both mother and fetus are seen in post-dated pregnancies. It has been reported that in a pregnancy which has crossed the expected date of delivery, there is an increased risk of oligohydramnios, meconium stained amniotic fluid, macrosomia, fetal postmaturity syndrome, and caesarean delivery, all of which jeopardise the baby as well as the mother. Prolonged pregnancy has always been regarded as a high risk condition because perinatal morbidity and mortality is known to rise.6

The interest in postdatism (just beyond expected date of delivery) has been recent and the management is controversial, more so with the advent of sonography providing information about placental aging and amount of amniotic fluid[6,7,8]. The aim of the present retrospective study was to analyze the outcome of pregnancies which crossed the expected date of delivery.

Materials and Methods

A retrospective observational study was conducted over a period of two years from January 2013 to January 2015 in the Department of Obstetrics and Gynecology Bharati hospital and Research centre, Pune. The inclusion criteria for study subjects were regular cycles with known last menstrual date, gestational age beyond 40 weeks, and delivery at our tertiary teaching hospital. Patients with multiple gestation and patients with medical orders like hypertension and gestational diabetes were excluded. Patient's demographic data, gestational week, presenting complaints if any, mode of delivery, maternal & fetal outcome were noted.

Result

Majority of the patients 36 (45.0%) were 23-27 years old, 13 (16.2%) were between age group 28-32 years and 3 (3.8%) patients were > 32yrs.

Table 1: Age Distribution

Age in years	Number of patients	Percentage
18-22	28	35.0
23-27	36	45.0
28-32	13	16.2
>32	03	3.8

Out of total 80 patients total 75 (93.7%) women were in 40wk – 40wk 6D group, 5% in 41wk- 41wk 6D group and

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1.3% were in ≥ 42 weeks group. (Table 2)

Table 2: Gestational age distribution at the time of admission

Gestational age (weeks)	Number of patients	Percentage
40w – 40w6d	75	93.8
41 w-41 w 6 d	04	5.0
≥42 w	01	1.2

58.8% patients were multigravida and 41.2% primigravida.

Table 3: Distribution of patients according to parity

Gravida	Number of patients	Percentage
Multigravida	47	58.8
Primigravida	33	41.2

Table 4: Mode of delivery

Mode of delivery	Number of patients	Percentage
Spontaneous Vaginal Delivery	31	38.6
Caesarean Section	49	61.3

Amongst the study subjects 61.3 % had Caesarean section and 38.6 % had spontaneous vaginal delivery

In our study, vaginal delivery rate among induced women was 75.0%. Dinoprostone gel and oxytocin were the different modes of induction. Oxytocin (96.4) was used in the majority of inductions followed by Dinoprostone gel (3.6%) (Table 5).

Table 5: Type of induction and vaginal delivery rate

Types of induction	Number of patients	Delivered Vaginally
Dinoprostone gel	01	01
Oxytocin	27	20
Total	28	21

In fetal outcome, majority neonates were having fetal distress 19 (23.7%) and least i.e. only one neonate had macrosomia. In maternal outcome, cesarean delivery was observed in majority patients 49 (61.2%) and Anhydramnios was seen in one patient (1.2%)

Table 4: Maternal & fetal outcome of prolonged delivery

	Number of patients	Percentage
Fetal Outcome		
Fetal distress	19	23.7
Neonatal intensive care unit admission	10	12.5
Meconium aspiration syndrome	06	7.5
Intra Uterine Growth Retardation	05	6.2
Jaundice neonatorum	04	5.0
Macrosomia (>4500 g)	01	1.2
Maternal outcome		
Cesarean delivery	49	61.2
Oligohydrominos	12	15.0
Premature Rupture of Membrane (PROM)	06	7.5
Cephalopelvic Disproportion (CPD)	04	5.0
Anhydramnios	01	1.2

DISCUSSION

In our study the incidence of prolonged pregnancy was 1.67% which was comparable with the study conducted by Karande *et al*[9]. Incidence of post term delivery in our study was less than those reported by other studies, (8.3%) by Ingemarsson and Kallen,[10] 7.6% by Ahanya *et al.*[11] In our study, most of the patients, 45% were belonged the age group of 23-27 years. Similar findings have been seen in another study conducted at Oakland[12], which showed 80.6% patients younger than 34 years of age. These finding conclude that incidence of prolonged pregnancy is common in young age. This could be because the majority of conceptions take place in this age group in our country. We found more primigravida delivering at term and more multigravida delivering post term. Many practitioners induce labor in pregnancies that reach 41 weeks; however, our data suggest that routine intervention then would likely increase labor complications (longer labors, increased operative deliveries) with little or no infant benefit.

Post term pregnancy has been associated with an increased risk of perinatal mortality and morbidity including meconium stained liquor and meconium aspiration syndrome, oligohydramnios, macrosomia, fetal birth injury, fetal septicemia, rate of non reassuring fetal heart rate or fetal distress in labor and maternal complications including increased rate of caesarean delivery, cephalopelvic disproportion, cervical tear, dystocia, postpartum hemorrhage. In this study incidence of both fetal and maternal complications were identified.[13] In our study maximum number of neonates was suffering with fetal distress followed by meconium aspiration syndrome. The fetal distress and fetal death may be due to placental insufficiency. Some studies have suggested that perinatal morbidity, including fetal asphyxia, intrapartum distress, meconium aspiration increases significantly each week from 40 weeks on. The rate of caesarean section was higher (61.3%) in post term pregnancy. This higher incidence may be due to big baby, presence of meconium in liquor and placental maturation leading to fetal jeopardy during labor.

CONCLUSION

Our study concluded that prolonged delivery was associated with significantly increased risks of perinatal complications like fetal distress and meconium aspiration syndrome respectively. There was a significantly increased risk of obstetric complications, such as cephalopelvic disproportion, oligohydrominos and caesarean section. The adverse outcome can be reduced by making accurate gestational age and diagnosis of post-term gestation as well as recognition and management of risk factors.

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