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Original Research Article

Assessment of maternal and perinatal outcome in cases of prolonged pregnancy in a tertiary healthcare institute: a cross sectional observational study

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ABSTRACT

Background: Prolonged pregnancy has always been regarded as a high-risk condition because perinatal morbidity and mortality is known to rise. 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. The aim of the present retrospective study was to analyze the outcome of pregnancies which crossed the expected date of delivery.

Methods: The present study was a cross sectional observational study, conducted between April 2018 to September 2018, among 90 cases presented with post dated pregnancy under the department of obstetrics and gynecology, in a tertiary medical teaching institute in Maharashtra.

Results: Maximum number of cases, i.e., 22.22% indications were meconium stained liquor with fetal distress, in 18.51% cases indications were failure of induction, in 22.22% indications were nonreactive NST, in 17.61% cases indications were CPD.

Conclusions: It was concluded that prolonged pregnancy was associated with significant risk of perinatal complications such as fetal distress, meconium aspiration syndrome and IUGR.

Keywords: Maternal morbidity, Obstetric complications, Postdated pregnancy, Prolonged pregnancy, Perinatal complications

INTRODUCTION

Postdate, post-term, postmaturity and prolonged pregnancy is accepted terms by WHO and the International Federation of Gynecology and Obstetrics 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 PTP is approximately 7%.²⁻⁴ 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 The most cases of PTP result from a prolongation of gestation. Other cases result from an inability to accurately define estimated date of deliver. Complications to both mother and fetus are seen in postdated 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 jeopardize 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.⁶⁻⁸ The aim of the present retrospective study was to analyze the outcome of pregnancies which crossed the expected date of delivery.

METHODS

The present study was a cross sectional observational study, conducted between April 2018 to September 2018, among 90 cases presented with post dated pregnancy under the department of obstetrics and gynaecology, in a tertiary medical teaching institute in Maharashtra. The present study includes both primigravida and multigravida beyond 40 weeks of gestation.

Sampling technique used in this study was non random sampling (purposive) method.

Inclusion criteria

Pregnant women more than 40 weeks of gestation (last three menstrual cycles regular, not used contraceptive pills for the past 3 months, not conceived during lactational amenorrhea), singleton pregnancy with cephalic presentation were included in the present study.

Exclusion criteria

Any associated complications such as previous Lower Segment Cesarean Section (LSCS), malpresentations, placenta previa, abruption, PIH, gestational diabetes anemia and other medical complications, Fetal anomalies were excluded from the present study.

The data was collected with the help of standard, semi structured, pre-validated case record proforma. The data was entered with the help of Microsoft Excel spreadsheets. The data was analysed using SPSS software version 21. Statistical analysis was performed using descriptive statistics, frequencies and the data was arranged in tables and charts.

RESULTS

In the present study, it was observed that maximum 56.66% cases were belonged to age group 20 - 25 years, 38.88% cases were of age group 26-30 years, and only 4.44% cases were of age group 31-35 years mean±standard deviation 24.27±3.15 (Table 1).

Table 1: Age wise distribution of cases.

Age (years)	Number of cases	Percentage
20-25	51	56.66%
26-30	35	38.88%
31-35	4	4.44%
Total	90	100%
Mean±SD	24.27±3.15 years	

In the present study, it was assessed that the ANC registration status of the study subjects according to the current national registration systems, we observed that 75.55% of the pregnancies were registered and 24.44% were unregistered cases (Figure 1).

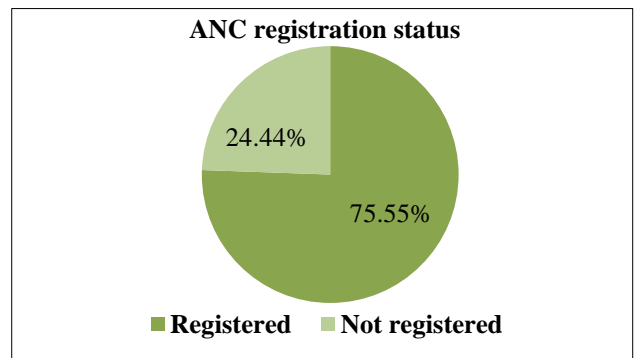


Figure 1: Distribution of cases according to their ANC registration status.

In the current study, majority of the cases were primigravida (63.33%) while 36.66% cases were multigravida (Figure 2).

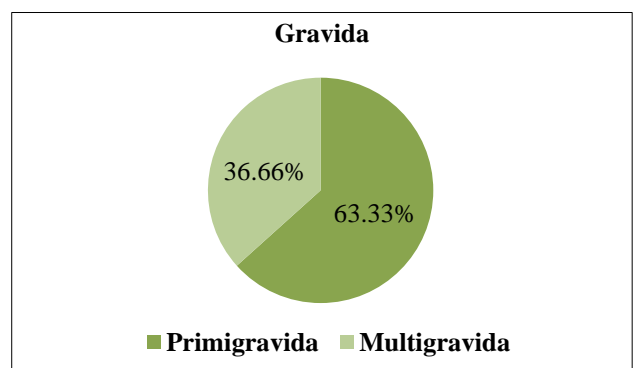


Figure 2: Distribution of cases according to parity.

Table 2: Distribution of cases according to mode of delivery.

Parity	Number of cases	Percentage
Vaginal delivery	63	70%
LSCS	27	30%
Total	90	100%

A total number of full term normal vaginal deliveries were conducted among 70% cases, whereas lower

segment caesarean section was performed among 30% of the study subjects (Table 2). Maximum number of cases, i.e., 22.22% indications were meconium stained liquor with fetal distress, in 18.51% cases indications were failure of induction, in 22.22% indications were nonreactive NST, in 17.61% cases indications were CPD, in 14.81% cases indications were non-progress of labor, and in 3.7% cases indications were cervical dystocia (Table 3).

Table 3: Indications for lower segment cesarean section.

Indications for LSCS	Number of cases	Percentage
Cervical dystocia	1	37.03%
Cephalopelvic disproportion	5	18.51%
Failure of induction	5	18.51%
Meconium stained liquor with fetal distress	6	22.22%
Nonreactive NST	6	22.22%
Nonprogress of labour	4	14.81%
Total	27	100%

In the present study, maternal complications due to post dated pregnancy were assessed, it was observed that oligohydramnios was reported among 20% cases, perineal tear was observed among 6.66% cases, atonic PPH in 3.33% cases, and shoulder dystocia in 4.44% cases (Table 4). Prolonged delivery was associated with increased risks of maternal and perinatal complications, hence the rate of caesarean section was higher in prolonged pregnancies.

Table 4: Distribution of patients according to maternal complications.

Maternal complication	Number of cases	Percentage
Oligohydramnios	18	20%
Perineal tear	6	6.66%
Atonic PPH	3	3.33%
Shoulder dystocia	4	4.44%

PPH: Postpartum haemorrhage.

DISCUSSION

In the present study, it was observed that maximum 56.66% cases were belonged to age group 20-25 years, 38.88% cases were of age group 26-30 years, and only 4.44% cases were of age group 31-35 years mean \pm standard deviation 24.27 \pm 3.15. While the mean age in Mahapatro's⁹ study was 24.19 \pm 3.30, while the mean age in Eden et al. study was 25.8 years.¹³ In the study, majority cases were primigravida (62%) which is similar to Mahapatro and Alexander et al. study.⁹

A total number of full term normal vaginal deliveries were conducted among 70% cases, whereas lower segment caesarean section was performed among 30% of

the study subjects. Singhal et al, Rate of LSCS was 16.7% and in the study by Mahapatro.^{9,10} It was found to be 28.9% out of 34 pregnancies the rate of LSCS beyond 41 weeks was found to be 5 (14.7%) which was (21.1%) by Kaplan et al, study.¹¹

The rate of instrumental delivery in the study was 2%, whereas in Mahapatro's study, it was found to be 5.72%. In Singhal et al, study and Davinder et al, study the rate of instrumental delivery was 8.6% and 10.35%, respectively.^{9,10,12}

In the study, it was observed that Meconium stained liquor with fetal distress is the most common indication for LSCS like Mahapatro's study, in which fetal distress was found to be the most common indication for LSCS (65.5%).⁹

Prolonged delivery was associated with increased risks of perinatal complications such as fetal distress and meconium aspiration syndrome. The rate of caesarean section was higher in prolonged pregnancies.

The timely onset of labor and birth is an important determinant of perinatal outcome. Most pregnancies undergoing postterm induction are not post-term when assessed by ultrasound dates. Regardless of whether prolonged pregnancy is considered to be a risk factor requiring intervention, the proportion of pregnancies considered "post-term" can be reduced considerably by a dating policy which ignores menstrual dates and establishes the expected delivery date on the basis of ultrasound dates alone.

Management of postdated pregnancy is a challenge to obstetrician and a careful advice and monitoring can alleviate maternal anxiety and untoward complications.

Pregnancy beyond 40 weeks needs frequent amniotic fluid index monitoring as in the study we found more cases of oligohydramnios. In the study, we observed pregnancy beyond 41 weeks increases rate of caesarean section and NICU admission.

CONCLUSION

Prolonged pregnancy was associated with significant risk of perinatal complications such as fetal distress, meconium aspiration syndrome and IUGR.

There was significantly increased the risk of obstetric complications such as oligohydramnios, perineal tear, atonic PPH and shoulder dystocia.

The adverse outcome can be reduced by making accurate gestational age and diagnosis of postterm gestation as well as recognition and management of risk factors.

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Ethical approval: The study was approved by the Institutional Ethics Committee

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